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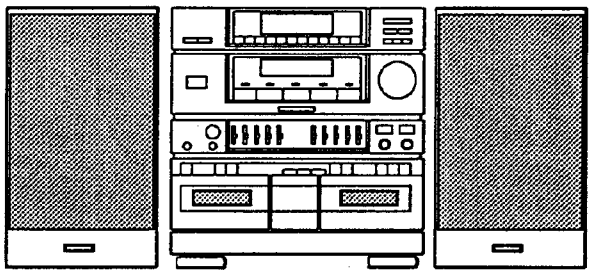
AIWA®

AIWA -00633

XS-Z87M
XS-Z85M

SERVICE MANUAL



STEREO SYSTEM

• BASIC TAPE MECHANISM : 1ZM – 3 • TYPE. Z87M (E,K,Z), Z85M (E,Z)

CENTER SYSTEM	CASSEIVER	SPEAKER	REMOTE CONTROLLER	TURNTABLE (OPTIONAL)	CD PLAYER (OPTIONAL)
XS – Z87M	CX – Z87M	SX – Z87	RC – TZ87ML	※1 PX – E80	※2 DX – Z87 ※2 DX – Z92 ※3 DX – M90M
XS – Z85M	CX – Z85M	SX – Z85	RC – TZ87ML	※1 PX – E80	※2 DX – Z87 ※2 DX – Z92 ※3 DX – M90M

※1 As to the service information of PX – E80, see the individual service manual of PX – E80.

※2 As to the service information of DX – Z92/Z87, see the individual service manual of DX – Z92/Z87.

※3 As to the service information of DX – M90M, see the individual service manual of DX – M90M.

AIWA Co., Ltd.

Tokyo Japan

Printed in Japan

SPECIFICATIONS

<Common>

Power requirements	CX-Z87M/Z85M E,Z 220V 50Hz CX-Z87M K 240V 50Hz
Power consumption	CX-Z87M E,Z 295W (System total 305 W) CX-Z87M K 300W (System total 310W) CX-Z85M 220W (System total 230W)
Dimensions	360 (W) × 359 (H) × 338 (D) mm 14 1/4(W) × 14 1/4(H) × 13 3/8(D) inches
Weight	CX-Z87M 8.5 kg 18.7 lbs CX-Z85M 7.8kg 16.5 lbs

<Amplifier section>

Power output	CX-Z87M 50 W + 50 W (6 ohms + 16 ohms, T.H.D.1%,1kHz) CX-Z85M 40 W + 40 W (6 ohms + 16 ohms, T.H.D.1%,1kHz)
Power bandwidth (IHF)	30 Hz to 50 kHz (0.5%, 20 W)
Signal-to-noise ratio	84 dB
Output terminals	
Speakers	6 to 16 ohms
SURROUND	16 ohms + 16 ohms
Headphones	32 ohms
Input terminal (Sensitivity/impedance)	
VIDEO/AUX	280 mV/47 kohms
PHONO	280 mV/47 kohms

<FM section>

Frequency range	FM: 87.5 MHz to 108 MHz
Usable sensitivity (IHF)	1.6 μV (75 ohms) 15.2 dBf
Alternate channel selectivity	52 dB (± 400 kHz)
Signal-to-noise ratio	77 dB (MONO)
Image response ratio	45 dB
Frequency response	CX-Z87M 40 Hz to 13 kHz (+ 0.5, -3 dB) CX-Z85M 40 Hz to 13 kHz (+ 0.5, -4 dB)
Stereo separation	35 dB at 1kHz
Antenna	75 ohms (unbalanced)

<MW section>

Frequency range	MW: 522kHz to 1,611kHz
Sensitivity	400 μV/m
Selectivity	25dB (9 kHz)
Signal-to-noise ratio	50 dB (100 dB input)
Antenna	Loop antenna

<LW section>

Frequency range	LW: 153kHz to 290kHz
Sensitivity	1000 μV/m
Antenna	Loop antenna

<Deck section>

Track format	4 tracks, 2 channels
Frequency response	METAL tape: 35-16,000 Hz (P.B.) CrO_2 tape: 35-16,000 Hz NORMAL tape: 35-15,000 Hz
Signal-to-noise ratio	60 dB (DOLBY NR ON)
Tape speed	4.8 cm/sec. (1-7/8 ips), 9.5 cm/sec. (Double speed)
Rewind time	120 sec. (C-60)
Fast forward time	120 sec. (C-60)
Recording system	AC bias
Erase system	AC erase
Motor	DC Servomotor × 1
Heads	Playback head × 1 (Deck 1) Record/playback head × 1 (Deck 2) Erase head × 1 (Deck 2)

SX-Z87

Cabinet type:	Bass reflex
Speaker:	220 mm cone type woofer 60 mm cone type tweeter 30 mm ceramic type tweeter
Frequency response:	45 to 20,000Hz
Impedance:	6 ohms
Output sound pressure level:	90 dB/W/m
Music power:	65W
Dimensions:	270 (W) × 481 (H) × 175 (D)mm 10 3/4 (W) × 19 (H) × 7 (D) inches
Weight:	4.1 kg, 9.02 lbs

SX-Z85

Cabinet type:	Bass reflex
Speaker:	220 mm cone type woofer 50 mm cone type tweeter
Frequency response:	45 to 20,000 Hz
Impedance:	6 ohms
Output sound pressure level:	90dB/W/m
Music power:	60 W
Dimensions:	280 (W) × 461 (H) × 175 (D) mm 11 1/8 (W) × 18 1/4 (H) × 7 (D) inches
Weight:	4.1 kg, 9.02 lbs

- Design and specifications are subject to change without notice.
- Noise reduction system manufactured under license from Dolby Laboratories Licensing Corporation.
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- The word "BBE" and the "BBE symbol" are trademarks of BBE Sound, Inc.
- Under license from BBE Sound, Inc.

ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	DESCRIPTION
===IC===		
	87-001-440-019	IC, BA15218N
	87-002-444-019	IC, BU4094B
	87-020-981-010	IC, CX-1102
	87-001-347-010	IC, HD14051 BD
	87-001-942-019	IC, LA1265S(G)
	87-001-334-010	IC, LB9051A
	81-MK1-630-010	IC, LC6568H-4645
	87-001-376-019	IC, LC7218
	87-027-895-010	IC, M5218AL
	87-020-758-019	IC, NJM2068SD
	87-020-966-019	IC, STK4142-MK2(Z85M)
	87-020-982-019	IC, STK4162-MK2(Z87M)
	87-020-446-019	IC, TA7343AP
	87-027-958-019	IC, TC4051BP
	87-001-790-010	IC, UNIT SBX1610-52
	87-001-883-010	IC, XR-C5424B
===TRANSISTOR===		
	89-501-615-019	FET, 2SK161GR
	89-502-415-019	FET, 2SK241GR
	89-502-466-019	FET, 2SK246BL
	89-502-465-019	FET, 2SK246GR
	89-502-464-019	FET, 2SK246Y
	89-110-155-019	TRANSISTOR, 2SA1015GR
	89-112-965-019	TRANSISTOR, 2SA1296GR
	89-113-187-019	TRANSISTOR, 2SA1318TU
	87-026-463-019	TRANSISTOR, 2SA933S(RS)
	89-109-521-019	TRANSISTOR, 2SA952K
	89-213-542-019	TRANSISTOR, 2SB1354EF
	89-213-702-019	TRANSISTOR, 2SB1370E
	87-026-462-019	TRANSISTOR, 2SC1740S(RS)
	89-318-155-019	TRANSISTOR, 2SC1815GR
	89-318-154-019	TRANSISTOR, 2SC1815Y
	89-319-233-019	TRANSISTOR, 2SC1923(O)
	89-320-011-089	TRANSISTOR, 2SC2001K
	89-332-665-019	TRANSISTOR, 2SC3266GR
	89-333-317-019	TRANSISTOR, 2SC3331 TU
	89-406-555-019	TRANSISTOR, 2SD655E
	87-026-214-019	TRANSISTOR, DTA114YS
	87-026-219-019	TRANSISTOR, DTA144ES
	87-026-289-019	TRANSISTOR, DTC143 XS
	87-026-218-019	TRANSISTOR, DTC144ES
===DIODE===		
	87-001-783-019	DIODE, 1N4002-T
	87-001-574-019	DIODE, 1SR139-200
	87-001-559-019	DIODE, 1SS131
	87-020-691-019	DIODE, 1SS132
	87-020-465-019	DIODE, 1SS133
	87-020-285-019	DIODE, DBA30C-K12
	87-020-144-019	DIODE, DBA40C
	87-020-123-019	DIODE, DS446-AT
	87-027-416-019	DIODE, ZENER HZ3C2
	87-027-475-019	DIODE, ZENER HZ6B1
	87-001-916-019	DIODE, ZENER UTZJ10B
	87-001-919-019	DIODE, ZENER UTZJ27C
	87-001-913-019	DIODE, ZENER UTZJ5.6B
	87-001-915-019	DIODE, ZENER UTZJ6.8A
===MAIN CIRCUIT BOARD SECTION===		
BPF731	★82-794-697-010	FILTER ANT BIRDIE(Z)
BPF831	★87-030-105-010	FILTER BPMB6A(Z)
C101	★81-794-643-010	CAP, ELECT 4700-50V(Z87M)
C101	★87-010-733-019	CAP, ELECT 3300-42V(Z85M)
C102	★81-794-643-010	CAP, ELECT 4700-50V(Z87M)
C102	★87-010-733-019	CAP, ELECT 3300-42V(Z85M)
C103	★87-010-390-019	CAP, ELECT 3300-25 SME
C104	★87-010-381-019	CAP, ELECT 330-16 SME
C105	★87-010-101-019	CAP, ELECT 220-16 SME
C106	★87-010-247-019	CAP, ELECT 100-50 SME(Z87M)
C106	★87-010-408-019	CAP, ELECT 47-50 SME(Z85M)
C107	★87-010-408-019	CAP, ELECT 47-50 SME(Z87M)
C107	★87-010-406-019	CAP, ELECT 22-50 SME(Z85M)
C108	★87-010-408-019	CAP, ELECT 47-50 SME(Z87M)
C108	★87-010-405-019	CAP, ELECT 10-50 SME(Z85M)
C109	★87-010-263-019	CAP, ELECT 100-10
C110	★87-010-263-019	CAP, ELECT 100-10
C112	★87-010-260-019	CAP, ELECT 47-25 SME
C113	★87-010-403-019	CAP, ELECT 3.3-50 SME
C114	★87-018-214-019	CAP, CERA-SOL 0.1-50 F
C115	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C116	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C117	★87-010-405-019	CAP, ELECT 10-50 SME
C118	★87-010-374-019	CAP, ELECT 47-10(Z87M)
C151	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C152	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C153	★87-010-405-019	CAP, ELECT 10-50 SME
C154	★87-010-405-019	CAP, ELECT 10-50 SME
C155	★87-010-260-019	CAP, ELECT 47-25 SME
C156	★87-010-260-019	CAP, ELECT 47-25 SME
C157	★87-010-374-019	CAP, ELECT 47-10
C158	★87-010-374-019	CAP, ELECT 47-10
C159	★87-018-214-019	CAP, CERA-SOL 0.1-50 F
C160	★87-018-214-019	CAP, CERA-SOL 0.1-50 F
C165	★87-018-123-019	CAP, CERA-SOL 220P-50 B(Z)
C166	★87-018-123-019	CAP, CERA-SOL 220P-50 B(Z)
C167	★87-018-134-019	CAP, CERA-SOL 0.01-16Y(Z)
C168	★87-018-134-019	CAP, CERA-SOL 0.01-16Y(Z)
C173	★87-018-104-019	CAP, CERA-SOL 10P-50 SL
C174	★87-018-104-019	CAP, CERA-SOL 10P-50 SL
C181	★87-010-408-019	CAP, ELECT 47-50 SME
C201	★87-010-401-019	CAP, ELECT 1-50 SME
C202	★87-010-401-019	CAP, ELECT 1-50 SME
C203	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C204	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C205	★87-010-404-019	CAP, ELECT 4.7-50 SME
C206	★87-010-404-019	CAP, ELECT 4.7-50 SME
C211	★87-010-382-019	CAP, ELECT 22-25 SME
C212	★87-010-404-019	CAP, ELECT 4.7-50 SME
C303	★87-018-125-019	CAP, CERA-SOL 330P-50 B
C304	★87-018-125-019	CAP, CERA-SOL 330P-50 B
C309	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C309	★87-018-214-019	CAP, CERA-SOL 0.1-50 F(Z)
C310	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C310	★87-018-214-019	CAP, CERA-SOL 0.1-50 F(Z)
C313	★87-018-205-019	CAP, CERA-SOL 0.022-25 F
C351	★87-018-121-019	CAP, CERA-SOL 150P-50 B
C352	★87-018-121-019	CAP, CERA-SOL 150P-50 B
C353	★87-018-124-019	CAP, CERA-SOL 270P-50 B
C354	★87-018-124-019	CAP, CERA-SOL 270P-50 B
C361	★87-018-131-019	CAP, CERA-SOL 1000P-50 B(E, K)
C361	★87-018-214-019	CAP, CERA-SOL 0.1-50 F(Z)
C362	★87-018-131-019	CAP, CERA-SOL 1000P-50 B(E, K)
C362	★87-018-214-019	CAP, CERA-SOL 0.1-50 F(Z)
C365	★87-018-205-019	CAP, CERA-SOL 0.022-25 F
C366	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y(Z)
C401	★87-010-812-019	CAP, ELECT BP 0.33-50V
C402	★87-010-812-019	CAP, ELECT BP 0.33-50V
C403	★87-018-133-019	CAP, CERA-SOL 4700P-16 X
C404	★87-018-133-019	CAP, CERA-SOL 4700P-16 X
C405	★87-010-072-019	CAP, ELECT 2.2-50 5L
C406	★87-010-072-019	CAP, ELECT 2.2-50 5L
C407	★87-018-130-019	CAP, CERA-SOL 820P-50 B
C408	★87-018-130-019	CAP, CERA-SOL 820P-50 B
C409	★87-010-256-019	CAP, ELECT 0.68-50 7L

REF. NO.	PART NO.	DESCRIPTION
C410	★87-010-256-019	CAP, ELECT 0.68-50 7L
C411	★87-010-401-019	CAP, ELECT 1-50 SME
C412	★87-010-401-019	CAP, ELECT 1-50 SME
C413	★87-010-371-019	CAP, ELECT 470-6.3
C414	★87-010-260-019	CAP, ELECT 47-25 SME
C415	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C451	★87-018-123-019	CAP, CERA-SOL 220P-50 B
C452	★87-018-123-019	CAP, CERA-SOL 220P-50 B
C453	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C456	★87-010-260-019	CAP, ELECT 47-25 SME
C501	★87-010-402-019	CAP, ELECT 2.2-50 SME
C502	★87-010-402-019	CAP, ELECT 2.2-50 SME
C503	★87-018-132-019	CAP, CERA-SOL 2200P-16 X
C504	★87-018-132-019	CAP, CERA-SOL 2200P-16 X
C513	★87-010-401-019	CAP, ELECT 1-50 SME
C514	★87-010-401-019	CAP, ELECT 1-50 SME
C515	★87-018-121-019	CAP, CERA-SOL 150P-50 B
C516	★87-018-121-019	CAP, CERA-SOL 150P-50 B
C604	★87-010-384-019	CAP, ELECT 100-25 SME
C605	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C606	★87-010-404-019	CAP, ELECT 4.7-50 SME
C607	★87-018-106-019	CAP, CERA-SOL 15P-50 SL
C608	★87-010-248-019	CAP, ELECT 220-10 SME
C609	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C610	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C611	★87-010-374-019	CAP, ELECT 47-10
C621	★87-018-199-019	CAP, CERA-SOL 3300P-16 X
C622	★87-018-199-019	CAP, CERA-SOL 3300P-16 X
C623	★87-018-195-019	CAP, CERA-SOL 1200P-16 X
C624	★87-018-195-019	CAP, CERA-SOL 1200P-16 X
C625	★87-010-403-019	CAP, ELECT 3.3-50 SME
C626	★87-010-403-019	CAP, ELECT 3.3-50 SME
C633	★87-010-221-019	CAP, ELECT 470-10
C721	★87-010-402-019	CAP, ELECT 2.2-50 SME
C722	★87-010-402-019	CAP, ELECT 2.2-50 SME
C723	★87-010-405-019	CAP, ELECT 10-50 SME
C724	★87-014-057-019	CAP, PP 1000P-100 J
C725	★87-010-401-019	CAP, ELECT 1-50 SME
C726	★87-010-403-019	CAP, ELECT 3.3-50 SME
C727	★87-010-248-019	CAP, ELECT 220-10 SME
C728	★87-010-402-019	CAP, ELECT 2.2-50 SME(Z)
C729	★87-010-402-019	CAP, ELECT 2.2-50 SME(Z)
C741	★87-010-402-019	CAP, ELECT 2.2-50 SME
C742	★87-018-038-019	CAP, CERA-SOL 330P-50 B
C743	★87-010-382-019	CAP, ELECT 22-25 SME
C744	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C745	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C746	★87-010-401-019	CAP, ELECT 1-50 SME
C747	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C748	★87-010-404-019	CAP, ELECT 4.7-50 SME
C749	★87-010-405-019	CAP, ELECT 10-50 SME
C750	★87-010-544-019	CAP, ELECT 0.1-50
C751	★87-010-403-019	CAP, ELECT 3.3-50 SME
C752	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C754	★87-010-260-019	CAP, ELECT 47-25 SME
C755	★87-010-401-019	CAP, ELECT 1-50 SME
C760	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C791	★87-010-374-019	CAP, ELECT 47-10
C802	★87-018-102-019	CAP, CERA-SOL 6.8P-50 SL(E, K)
C802	★87-018-105-019	CAP, CERA-SOL 12P-50 SL(Z)
C804	★87-018-102-019	CAP, CERA-SOL 6.8P-50 SL(E, K)
C805	★87-018-098-019	CAP, CERA-SOL 3.3P-50 SL(E, K)
C805	★87-018-097-019	CAP, CERA-SOL 2.2P-50 SL(Z)
C806	★87-018-096-019	CAP, CERA-SOL 1P-50 SL
C807	★87-018-100-019	CAP, CERA-SOL 4.7P-50 SL
C807	★87-018-106-019	CAP, CERA-SOL 15P-50 SL(Z)
C808	★87-018-119-019	CAP, CERA-SOL 100P-50 B
C809	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y

REF. NO.	PART NO.	DESCRIPTION
C810	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C811	★87-018-116-019	CAP, CERA-SOL 56P-50 SL
C812	★87-018-107-019	CAP, CERA-SOL 18P-50 SL
C814	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C816	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C819	★87-018-214-019	CAP, CERA-SOL 0.1-50 F
C831	★87-018-103-019	CAP, CERA-SOL 8.2P-50 SL(E, K)
C831	★87-018-105-019	CAP, CERA-SOL 12P-50 SL(Z)
C832	★87-018-100-019	CAP, CERA-SOL 4.7P-50 SL(Z)
C833	★87-018-134-018	CAP, CERA-SOL 0.01-16 Y(Z)
C834	★87-018-105-019	CAP, CERA-SOL 12P-50 SL(Z)
C941	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C942	★87-018-121-019	CAP, CERA-SOL 150P-50 B
C943	★87-018-047-019	CAP, PP 390P-100 J
C944	★87-018-109-019	CAP, CERA-SOL 22P-50 SL
C946	★87-010-401-019	CAP, ELECT 1-50 SME
C949	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C962	★87-010-401-019	CAP, ELECT 10-50 SME
C963	★87-014-049-019	CAP, PP 470P-100 J
C964	★87-018-110-019	CAP, CERA-SOL 24P-50 SL
C971	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C983	★87-010-544-019	CAP, ELECT 0.1-50
C985	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C990	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
CF741	★82-794-670-019	BFU 450C4N
CF971	★87-008-261-019	FILTER, SFE10.7MA5-A
CF972	★87-008-261-019	FILTER, SFE10.7MA5-A
CF973	★82-799-621-019	FILTER, MS2-A(Z)
J150	87-049-855-019	JACK, 6.3 W/S(PHONES)
J151	★81-584-634-019	JACK ASSY, 4P(VCR/AUX) (PHONO)
J152	87-009-063-010	CONNECTOR FG 11P
J153	87-049-862-019	JACK ASSY, 2P(SURROUND SPEAKERS)
J154	★87-033-215-019	TERMINAL SP 4P R(SPEAKERS) (E, K)
J154	★87-033-216-019	TERMINAL SP 4P R(SPEAKERS) (Z)
J901	★81-631-646-010	ANT TERM 2P PAL(ANTENNA) (E, K)
L101	★87-005-366-010	COIL, 1UH(Z)
L102	★87-005-366-010	COIL, 1UH(Z)
L103	★87-005-130-019	COIL, 10UH
L451	★87-007-300-010	COIL, OSC BIAS 85K
L501	★87-003-131-019	COIL, 10MMH J
L502	★87-003-131-019	COIL, 10MMH J
L503	★87-005-525-080	COIL, 22MMH-J
L504	★87-005-525-080	COIL, 22MMH-J
L601	★81-631-643-019	COIL 1 POLE MPX
L602	★81-631-643-019	COIL 1 POLE MPX
L603	★87-005-151-019	COIL, 2.2UH
L605	★87-005-151-019	COIL, 2.2UH(Z)
L741	★81-631-611-019	COIL, QUAD (SINGLE)
L742	★87-008-405-019	CFBZ-450D
L801	★87-006-199-019	COIL, ANT FM 3/4T, L5
L802	★87-006-198-019	COIL, ANT FM 2-3/4TS, L5
L803	★87-006-200-019	COIL, RF FM 3-1/2T, L5
L804	★87-006-201-019	COIL, RF FM3-1/2TS, L5
L805	★87-005-151-019	COIL, 2.2UH
L806	★82-794-683-019	IFT, FM 6T
L807	★82-702-621-019	COIL, FM OSC (7K)
L831	★87-006-202-019	COIL, RF 3-1/2TS, L5
L941	★87-006-204-010	COIL, ANT LW(9MK-1)
L942	★87-794-688-010	COIL, OSC LW
L981	★87-006-162-019	COIL, OSC MW(9M)
L982	★87-006-161-019	COIL, ANT MW(9M)
R105	★87-022-050-019	RES, METAL 1W-0.22J
R106	★87-022-050-019	RES, METAL 1W-0.22J
R191	★87-022-050-019	RES, METAL 1W-0.22J
R192	★87-022-050-019	RES, METAL 1W-0.22J
R193	★87-022-050-019	RES, METAL 1W-0.22J
R194	★87-022-050-019	RES, METAL 1W-0.22J
RY101	★87-045-285-010	RELAY, VB12MB

REF. NO.	PART NO.	DESCRIPTION
SFR301	★87-024-168-019	SFR, 1K
SFR302	★87-024-168-019	SFR, 1K
SFR351	★87-024-168-019	SFR, 1K
SFR352	★87-024-168-019	SFR, 1K
SFR451	★87-024-175-019	SFR, 47K
SFR452	★87-024-175-019	SFR, 47K
SFR501	★87-024-171-019	SFR, 4.7K
SFR502	★87-024-171-019	SFR, 4.7K
SFR721	★87-024-171-019	SFR, 4.7K
SFR722	★87-024-174-019	SFR, 33K
TC601	★87-011-221-019	TRIMMER. 30P VC51
TC801	★87-011-155-019	TRIMMER, 10P
TC802	★87-011-155-019	TRIMMER, 10P
TC803	★87-011-155-019	TRIMMER, 10P(Z)
TC941	★87-011-164-019	TRIMMER, 30P
TC961	★87-011-173-010	TRIMMER, 20P
VR151	★89-MK1-636-019	VOLUME, 50KA(VCR/AUX INPUT LEVEL)
X601	★87-030-163-019	XTAL RESONATOR 7.2MHZ(NDK)
===FRONT CIRCUIT BOARD SECTION===		
C101	★87-018-214-019	CAP, CERA-SOL 0.1-50V F
C102	★87-018-214-019	CAP, CERA-SOL 0.1-50V F
C103	★87-018-214-019	CAP, CERA-SOL 0.1-50V F
C104	★87-010-384-019	CAP, ELECT 100-25 SME
C105	★87-010-071-019	CAP, ELECT 1-50 5L
C106	★87-010-401-019	CAP, ELECT 1-50 SME(Z87M)
C106	★87-010-400-019	CAP, ELECT 0.47-50 SME(Z85M)
C107	★87-010-370-019	CAP, ELECT 330-6.3 SME
C110	★87-018-195-019	CAP, CERA-SOL 1200P-16 X
C111	★87-018-195-019	CAP, CERA-SOL 1200P-16 X
C160	★87-010-401-019	CAP, ELECT 1-50 SME(Z87M)
C160	★87-010-400-019	CAP, ELECT 0.47-50 SME(Z85M)
C201	★87-018-127-019	CAP, CERA-SOL 470P-50 B(Z87M)
C202	★87-018-127-019	CAP, CERA-SOL 470P-50 B(Z87M)
C203	★87-018-195-019	CAP, CERA-SOL 1200P-16 X(Z87M)
C204	★87-018-195-019	CAP, CERA-SOL 1200P-16 X(Z87M)
C205	★87-018-133-019	CAP, CERA-SOL 4700P-16 X(Z87M)
C206	★87-018-133-019	CAP, CERA-SOL 4700P-16 X(Z87M)
C207	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y(Z87M)
C208	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y(Z87M)
C209	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y(Z87M)
C210	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y(Z87M)
C211	★87-010-068-019	CAP, ELECT 0.22-50 5L(Z87M)
C212	★87-010-068-019	CAP, ELECT 0.22-50 5L(Z87M)
C213	★87-010-068-019	CAP, ELECT 0.22-50 5L(Z87M)
C214	★87-010-068-019	CAP, ELECT 0.22-50 5L(Z87M)
C215	★87-010-068-019	CAP, ELECT 0.22-50 5L(Z87M)
C216	★87-010-405-019	CAP, ELECT 10-50 SME(Z87M)
C217	★87-010-405-019	CAP, ELECT 10-50 SME
C218	★87-018-205-019	CAP, CERA-SOL 0.022-25 F(Z87M)
C301	★87-010-071-019	CAP, ELECT 1-50 5L
C302	★87-010-071-019	CAP, ELECT 1-50 5L
C305	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C306	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C309	★87-010-546-019	CAP, ELECT 0.33-50 SME
C310	★87-010-546-019	CAP, ELECT 0.33-50 SME
C311	★87-010-400-019	CAP, ELECT 0.47-50 SME
C312	★87-010-400-019	CAP, ELECT 0.47-50 SME
C313	★87-010-404-019	CAP, ELECT 4.7-50 SME
C314	★87-010-404-019	CAP, ELECT 4.7-50 SME
C317	★87-018-109-019	CAP, CERA-SOL 22P-50 SL
C318	★87-018-109-019	CAP, CERA-SOL 22P-50 SL
C321	★87-010-070-019	CAP, ELECT 0.47-50 5L
C322	★87-010-400-019	CAP, ELECT 0.47-50 SME
C323	★87-010-421-019	CAP, ELECT 4.7-50 5L
C324	★87-010-421-019	CAP, ELECT 4.7-50 5L
C325	★87-010-401-019	CAP, ELECT 1-50 SME
C326	★87-010-401-019	CAP, ELECT 1-50 SME

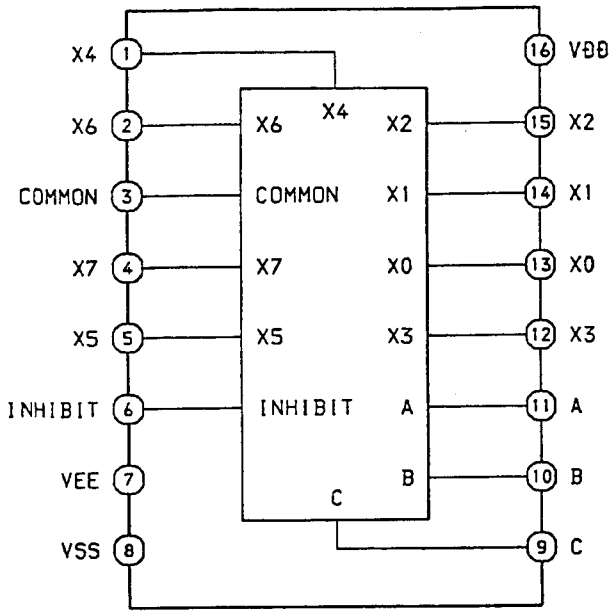
REF. NO.	PART NO.	DESCRIPTION
C331	★87-010-251-019	CAP, ELECT 10-35 SRE
C332	★87-010-371-019	CAP, ELECT 470-6.3
C333	★87-010-101-019	CAP, ELECT 220-16 SME
C334	★87-010-404-019	CAP, ELECT 4.7-50 SME
C335	★87-010-404-019	CAP, ELECT 4.7-50 SME
C401	★87-010-404-019	CAP, ELECT 4.7-50 SME
C402	★87-010-404-019	CAP, ELECT 4.7-50 SME
C421	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C422	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C425	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C501	★87-010-404-019	CAP, ELECT 4.7-50 SME
C502	★87-010-404-019	CAP, ELECT 4.7-50 SME
C503	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C504	★87-018-131-019	CAP, CERA-SOL 1000P-50 B
C505	★87-010-401-019	CAP, ELECT 1-50 SME
C506	★87-010-401-019	CAP, ELECT 1-50 SME
C507	★87-010-067-019	CAP, ELECT 0.1-50 5L
C508	★87-010-067-019	CAP, ELECT 0.1-50 5L
C509	★87-018-214-019	CAP, CERA-SOL 0.1-50V F(Z87M)
C510	★87-018-214-019	CAP, CERA-SOL 0.1-50V F(Z87M)
C511	★87-010-068-019	CAP, ELECT 0.22-50 5L
C512	★87-010-068-019	CAP, ELECT 0.22-50 5L
C513	★87-010-069-019	CAP, ELECT 0.33-50 5L(Z87M)
C513	★87-010-068-019	CAP, ELECT 0.22-50 5L(Z85M)
C514	★87-010-546-019	CAP, ELECT 0.33-50 SME(Z87M)
C514	★87-010-545-019	CAP, ELECT 0.22-50 SME(Z85M)
C515	★87-010-072-019	CAP, ELECT 2.2-50 5L
C516	★87-010-072-019	CAP, ELECT 2.2-50 5L
C517	★87-010-072-019	CAP, ELECT 2.2-50 5L
C518	★87-010-072-019	CAP, ELECT 2.2-50 5L
C519	★87-018-202-019	CAP, CERA-SOL 6800P-16 X
C520	★87-018-202-019	CAP, CERA-SOL 6800P-16 X
C521	★87-010-069-019	CAP, ELECT 0.33-50 5L
C522	★87-010-401-019	CAP, ELECT 1-50 SME
C523	★87-010-400-019	CAP, ELECT 0.47-50 SME
C524	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C525	★87-018-134-019	CAP, CERA-SOL 0.01-16 Y
C527	★87-010-071-019	CAP, ELECT 1-50 5L
C528	★87-010-071-019	CAP, ELECT 1-50 5L
C551	★87-010-370-019	CAP, ELECT 330-6.3 SME
C601	★87-010-071-019	CAP, ELECT 1-50 5L
C603	★87-018-125-019	CAP, CERA-SOL 330P-50 B
C604	★87-010-421-019	CAP, ELECT 4.7-50 5L
C605	★87-010-421-019	CAP, ELECT 4.7-50 5L
C606	★87-018-127-019	CAP, CERA-SOL 470P-50 B
C701	★87-018-214-019	CAP, CERA-SOL 0.1-50V F
FL201	89-MK1-642-010	FL BG-781GK(SPEANA)(Z87M) (5BAND SPECTRUM ANALYZER)
FL202	89-MK1-641-010	FL 9-BT-69GK(TUNER) (STEREO SYNTHESIZE TUNER)
L101	★87-003-152-019	COIL, 100UH
L102	★87-003-102-019	COIL, 10UH
LED801	87-001-124-019	LED SLZ 381C-02-T1(◀)(D1)
LED802	87-001-124-019	LED SLZ 381C-02-T1(▶)(D1)
LED803	87-001-123-019	LED SLZ 981C-02T1(SYNC DUBBING)
LED804	87-001-123-019	LED SLZ 981C-02T1(CD SYNC REC)
LED805	87-001-123-019	LED SLZ 981C-02T1(●/●)(D2)
LED806	87-001-124-019	LED SLZ 381C-02-T1(◁)(D2)
LED807	87-001-124-019	LED SLZ 381C-02-T1(▷)(D2)
LED808	87-001-294-019	LED SLZ 481C-02-T1(PAUSE)(D2)
LED809	87-001-124-019	LED SLZ 381C-02-T1(TAPE)
LED810	87-001-124-019	LED SLZ 381C-02-T1(TUNER)
LED811	87-001-124-019	LED SLZ 381C-02-T1(PHONO)
LED812	87-001-124-019	LED SLZ 381C-02-T1(VCR/AUX)
LED813	87-001-124-019	LED SLZ 381C-02-T1(CD)
LED814	87-001-124-019	LED SLZ 381C-02-T1(BBE)
LED815	87-001-124-019	LED SLZ 381C-02-T1(T-BASS)
S901	87-036-142-019	TACT SW EVQ-11404M(SLEEP)

REF. NO.	PART NO.	DESCRIPTION
S902	87-036-142-019	TACT SW EVQ-11404M(3)
S903	87-036-142-019	TACT SW EVQ-11404M(7)
S904	87-036-142-019	TACT SW EVQ-11404M(BAND)
S905	87-036-142-019	TACT SW EVQ-11404M(SET)
S906	87-036-142-019	TACT SW EVQ-11404M(TAPE)
S907	87-036-142-019	TACT SW EVQ-11404M(◀◀) (D2)
S908	87-036-142-019	TACT SW EVQ-11404M(NORMAL)
S909	87-036-142-019	TACT SW EVQ-11404M(◀◀) (D1)
S910	87-036-142-019	TACT SW EVQ-11404M(◀DIR▶) (D1)
S911	87-036-142-019	TACT SW EVQ-11404M(HIGH)
S912	87-036-142-019	TACT SW EVQ-11404M(◀DIR▶) (D2)
S913	87-036-142-019	TACT SW EVQ-11404M(TUNER)
S914	87-036-142-019	TACT SW EVQ-11404M(FM MODE)
S915	87-036-142-019	TACT SW EVQ-11404M(∧UP)
S916	87-036-142-019	TACT SW EVQ-11404M(8)
S917	87-036-142-019	TACT SW EVQ-11404M(4)
S918	87-036-142-019	TACT SW EVQ-11404M(T-STANDBY)
S919	87-036-142-019	TACT SW EVQ-11404M(1)
S920	87-036-142-019	TACT SW EVQ-11404M(5)
S921	87-036-142-019	TACT SW EVQ-11404M(9)
S922	87-036-142-019	TACT SW EVQ-11404M(∨DOWN)
S923	87-036-142-019	TACT SW EVQ-11404M(DISPLAY)
S924	87-036-142-019	TACT SW EVQ-11404M(PHONO)
S925	87-036-142-019	TACT SW EVQ-11404M(▶▶) (D2)
S926	87-036-142-019	TACT SW EVQ-11404M(CBRS/EDIT)
S927	87-036-142-019	TACT SW EVQ-11404M(▶▶) (D1)
S928	87-036-142-019	TACT SW EVQ-11404M(■) (D1)
S929	87-036-142-019	TACT SW EVQ-11404M(●/●) (D2)
S930	87-036-142-019	TACT SW EVQ-11404M(■) (D2)
S931	87-036-142-019	TACT SW EVQ-11404M(VCR/AUX)
S932	87-036-142-019	TACT SW EVQ-11404M(CD)
S933	87-036-142-019	TACT SW EVQ-11404M(+10)
S934	87-036-142-019	TACT SW EVQ-11404M(0)
S935	87-036-142-019	TACT SW EVQ-11404M(6)
S936	87-036-142-019	TACT SW EVQ-11404M(2)
S937	87-036-142-019	TACT SW EVQ-11404M(▮▮) (D2)
S938	87-036-142-019	TACT SW EVQ-11404M(POWER)
S939	87-036-142-019	TACT SW EVQ-11404M(BBE)
S940	87-036-142-019	TACT SW EVQ-11404M(T-BASS)
S941	87-036-227-019	SLIDE SW(CBRS/EDIT/STSD/ CONT[1▶◀2])
S942	87-036-241-019	SLIDE SW(DOLBY NR)
VR301	89-MK1-634-019	VOLUME, 10KA(BBE LEVEL)
VR401	89-MK1-631-019	SLIDE VOLUME 20KB(70Hz)
VR402	89-MK1-631-019	SLIDE VOLUME 20KB(70Hz)
VR403	89-MK1-631-019	SLIDE VOLUME 20KB(350Hz)
VR404	89-MK1-631-019	SLIDE VOLUME 20KB(350Hz)
VR405	89-MK1-631-019	SLIDE VOLUME 20KB(1KHz)
VR406	89-MK1-631-019	SLIDE VOLUME 20KB(1KHz)
VR407	89-MK1-631-019	SLIDE VOLUME 20KB(3.5KHz)
VR408	89-MK1-631-019	SLIDE VOLUME 20KB(3.5KHz)
VR409	89-MK1-631-019	SLIDE VOLUME 20KB(10KHz)
VR410	89-MK1-631-019	SLIDE VOLUME 20KB(10KHz)
VR501	87-024-387-019	VR, 500KA-2 RK14K(T-BASS LEVEL) (Z85M)
VR501	89-VP5-636-019	VR, 1500KA(DIA 14) (T-BASS LEVEL) (Z87M)
VR601	89-MK1-634-019	VOLUME, 10KA(KARAOKE MIC MIXING)
X101	89-MX1-704-019	CERALOCK CST3.9MHz
===VR CIRCUIT BOARD SECTION===		
VR801	87-024-386-019	VOLUME, 50KA(VOLUME)
M801	+ + +	MOTOR, VOLUME(VOLUME)
===LED CIRCUIT BOARD SECTION===		
LED820	87-001-123-019	LED SLZ 981C-02TI (VOLUME INDICATOR)

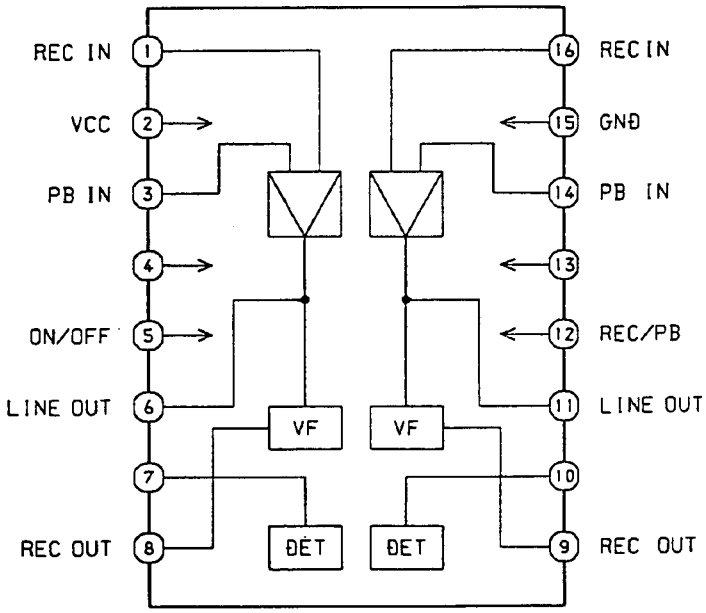
REF. NO.	PART NO.	DESCRIPTION
===JACK CIRCUIT BOARD SECTION===		
C602	87-018-195-019	CAP, CERA-SOL 1200P-16 X
J601	87-009-204-019	JACK 6.3 YKB21-5012(MIC)
===DECK-1 CIRCUIT BOARD SECTION===		
S1	87-036-110-019	LEAF SW(PLAY)
S2	86-575-632-110	LEAF SW(FR)
S3	87-036-110-019	LEAF SW(CST)
S4	87-036-110-019	LEAF SW(CrO2)
SOL1	★86-575-622-010	SOLENOID(PLAY)
SOL2	★86-575-622-010	SOLENOID(FR)
===DECK-2 CIRCUIT BOARD SECTION===		
M1	87-045-319-019	MOTOR SHU2L
S1	87-036-110-019	LEAF SW(PLAY)
S2	86-575-632-110	LEAF SW(FR)
S3	87-036-110-019	LEAF SW(CST)
S4	87-036-110-019	LEAF SW(CrO2)
S5	87-036-109-019	LEAF SW(REA)
S6	87-036-110-019	LEAF SW(REB)
SFR1	★87-024-331-019	SFR 5K
SFR2	★87-024-331-019	SFR 5K
SOL1	★86-575-622-010	SOLENOID(PLAY)
SOL2	★86-575-622-010	SOLENOID(FR)
===RELAY-1 CIRCUIT BOARD SECTION===		
===RELAY-2 CIRCUIT BOARD SECTION===		
===POWER-1 CIRCUIT BOARD SECTION===		
⚠	★87-033-147-019	FUSE CLAMP
⚠F1	87-035-365-018	FUSE, T2A(Z87M)
===POWER-2 CIRCUIT BOARD SECTION===		
R101	★87-022-184-019	RES, METAL 0.33-1W
R102	★87-022-184-019	RES, METAL 0.33-1W
R103	★87-022-184-019	RES, METAL 0.33-1W
===MISCELLANEOUS===		
⚠	87-034-781-018	AC CORD, E(E, Z)
⚠	87-034-592-018	AC CORD, K(K)
⚠	★87-085-185-010	BUSHING, AC CORD E
CON301	81-MK1-638-019	CONNECTOR ASSY HEAD1(D1)
CON351	89-MK1-657-019	CONNECTOR ASSY HEAD2(D2)
PH	87-046-355-010	P HEAD(D1)
⚠PT1	89-MK2-613-018	POWER TRANSFORMER, E(Z85M E, Z)
⚠PT1	81-MK1-621-019	POWER TRANSFORMER, K(Z87M K)
⚠PT1	81-MK1-622-019	POWER TRANSFORMER, E(Z87M E, Z)
RPH	87-046-356-010	R.P.E HEAD(D2)

IC BLOCK DIAGRAM – 1

IC,TC4051BP



IC,CX1102

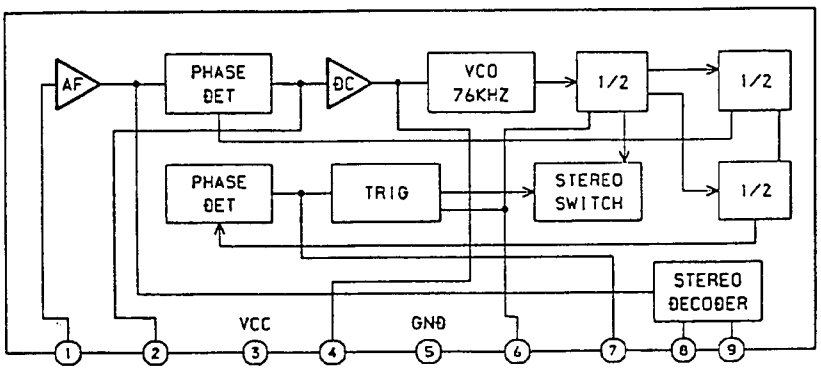


IC,TC4051BP

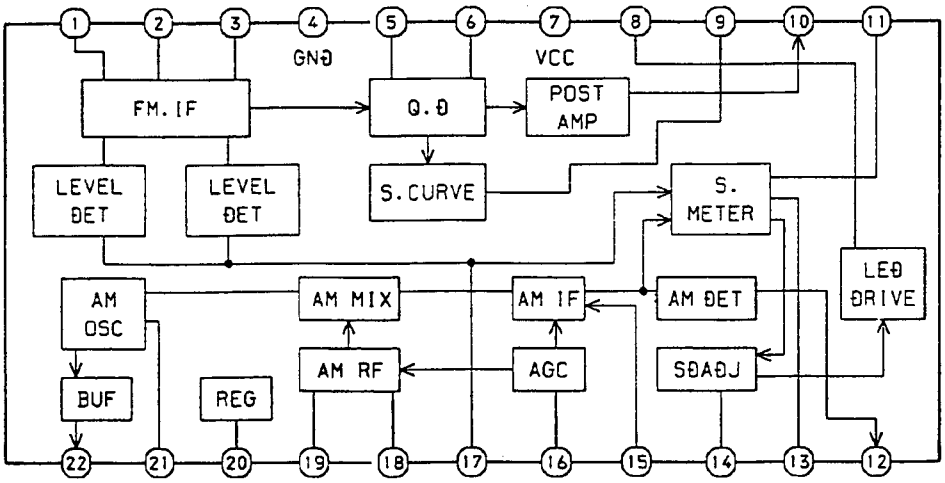
TRUTH TABLE

CONTROL INPUT				ON SWITCH
INHIBIT	C	B	A	
0	0	0	0	X0
0	0	0	1	X1 (TP)
0	0	1	0	X2 (TU)
0	0	1	1	X3 (PH)
0	1	0	0	X4
0	1	0	1	X5 (CD)
0	1	1	0	X6
0	1	1	1	X7
1	X	X	X	—

IC,TA7343AP



IC,LA1265G



IC DESCRIPTION

IC,LC6568H – 4645

Pin No.	Pin Name	I/O	Description
1~5 60~63	G1 ⌇ G9	O	FL display digit outputs. Active "H". Key scan outputs.
6	VOL UP	O	Motor volume up and down output.
7	VOL DOWN	O	
8	D. VOL	O	LED display segment output. Active "H".
9	O-$\overline{\text{F. MUTE}}$	O	Function IC (BU4094B) Muting output. Active "L".
10 ⌇ 15	I-K0 ⌇ I-K5	I	Key return inputs.
16	I-$\overline{\text{RMC}}$	I	Remote control signal input.
17	I-$\overline{\text{HOLD}}$	I	Power failure detection input. "H" input switches off all the output ports and then sets the unit to the HOLD mode (clock stopped and memory maintained.) Goes "H" when the over-current detector in the Power amplifier operates.
18	STROBE	O	Outputs STROBE signal to the shift Registor IC (BU4094B). Deck display control.
19	LED CLK	O	Outputs a clock signal to the shift Registor IC (BU4094B). Deck display control.
20	DATA	O	Outputs data to the PLL IC (LC7218) in the tuner. Outputs data to the sift Resistor IC (BU4094B). Deck display control.
21	PLL CLK	O	Outputs a clock signal to the PLL IC (LC7218) in the tuner.
22	PLL CE	O	Chip enable output for the PLL IC (LC7218) in the tuner section.
23	I-$\overline{\text{TUNE}}$	I	Tuning detection input from the tuner. Goes "L" when the tuner is tuned to a signal. Receives auto scan and auto stop signals, and drives the tuning display.
24	I-TMBASE	I	Clock pulse input for clock counting. 8Hz is input from the tuner PLL IC (LC7218).
25	I-$\overline{\text{STEREO}}$	I	Goes "L" when the tuner receives a stereo signal.
26	O-PB1	O	Play input signal select output. Goes "H" when a tape playing in DECK 1. Goes "H" in the record mode and when the power is turned on.
27	O-$\overline{\text{REC}}$	O	Dolby NR recording/playback switching output. Goes "L" in the record mode. As this pin goes "H" during dubbing, the Dolby NR circuit is set to the playback mode.
28	O-RMT	O	Record muting output. Goes "H" when muting signals.
29	O-$\overline{\text{BIAS}}$	O	Bias oscillation on/off output. Goes "L" in the record and dubbing modes.
30	TEST	–	Connected to GND.
31	Vss	–	GND.
32	OSC1	–	Pins to generate a 3.9MHz clock signal.
33	OSC2	–	
34	$\overline{\text{RST}}$	I	Reset input which goes "L" when AC Power is supplied.
35	$\overline{\text{S. I/O}}$	I/O	I/O port to synchronize the CD player. Works as DECK-CD SYNC I/O and AMP auto-function input.
36	O-$\overline{\text{BBE}}$	O	BBE on/off output. "L" output turns BBE on.
37	O-T-BAS	O	T-BASS on/off output. Goes "L" when T-BASS is on.
38	O-MUTE	O	Muting output.

Pin No.	Pin Name	I/O	Description
39	F. TP	O	"L" when TAPE.
40	F. TU	O	"L" when TUNER.
41	F. PH	O	"L" when PHONO.
42	F. AUX	O	"L" when AUX.
43	F. CD	O	"L" when CD.

A, B and C signals are generated with the function display control output and D138-D145 as an amplifier input switching (function) control output.

Function
IC(BU4094B)control signal

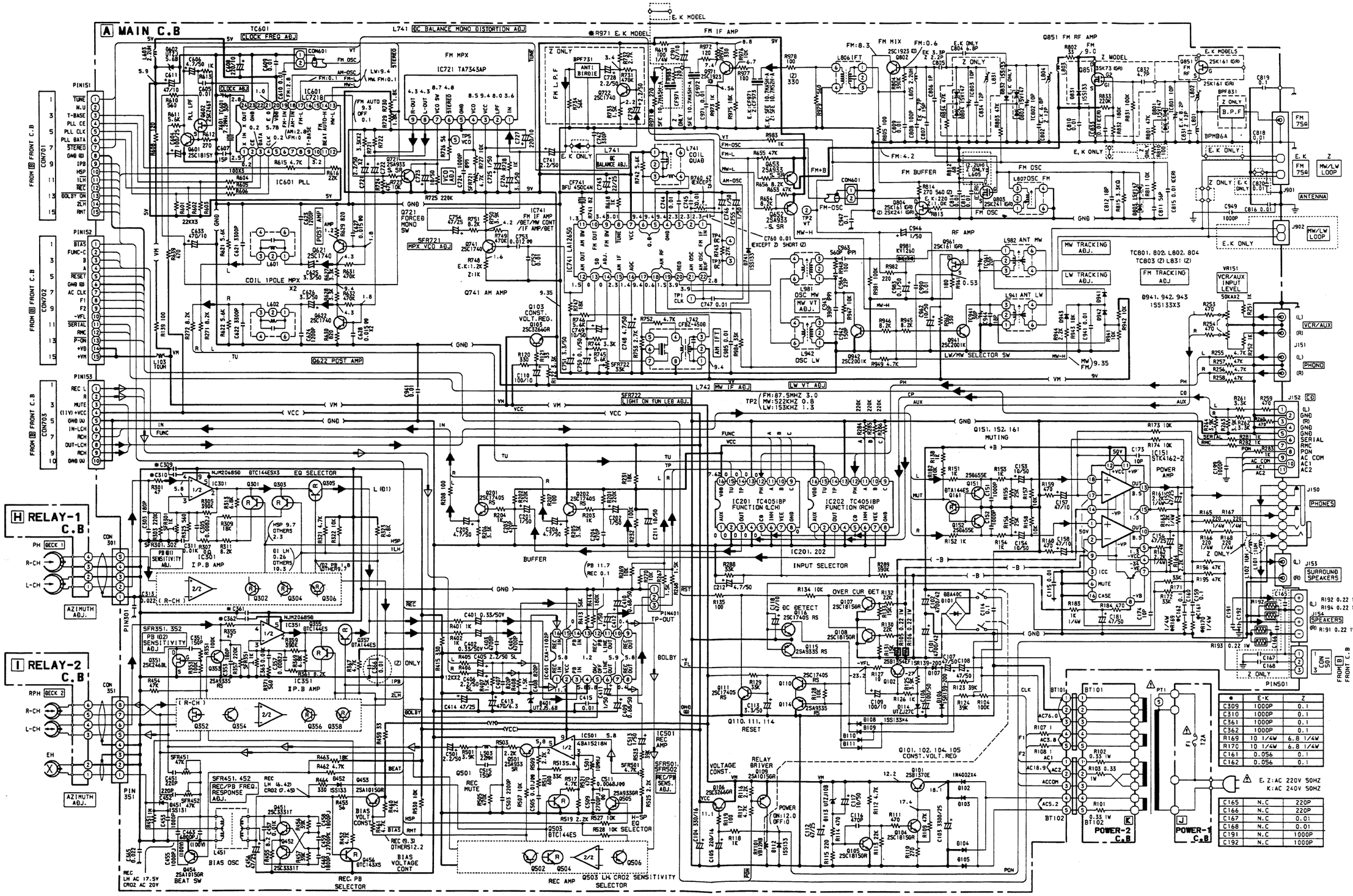
NO.	C	B	A	FUNCTION
1	L	L	H	TAPE
2	L	H	L	TUNER
3	L	H	H	PHONO
4	H	L	L	AUX
5	H	L	H	CD
6	H	H	H	MUTE

44	O-POWER	O	Power on/off output. Goes "L" when the power is turned on.
45	O-HSP	O	Output "H" in the high-speed dubbing mode and "L" in other modes. When power is turned on, this pin outputs "L" for initialization.
46	O-MOTOR	O	DECK 1/2 motor drive output. "L" output drives the motor. Outputs "L" for one second when the power is turned on. Outputs "H" when DECK1/2 are in the stop mode.
47	O-SOL PL1	O	DECK 1 PLAY solenoid output. Active "L".
48	O-SOL FR1	O	DECK 1 FR solenoid output. Active "L".
49	O-SOL PL2	O	DECK 2 PLAY solenoid output. Active "L".
50	O-SOL FR2	O	DECK 2 FR solenoid output. Active "L".
51	Vp	–	Negative power supply pin for the FL drive.
52 ∫ 59	a ∫ h	O	FL display segment outputs. Active "H".
64	VDD	–	Power supply.

IC,LC7218

Pin No.	Pin Name	I/O	Description
1 24	X-IN X-OUT	–	A crystal oscillator (7.2MHz) is connected between these pins.
2 3 4	CE DATA CLK	I	When a key is operated, a signal is transmitted from the CPU (microprocessor). Active "H".
5 ∫ 8	—— ∫ ——	–	Open.
9	T. BASE	O	Outputs a reference clock signal (8Hz) for the clock.
10 12	——	–	Open.
11	BEAT	O	Beat select signal output.
13	MW-L	O	Outputs "H" when an MW broadcast is received.
14	FM AUTO-H	O	Outputs "H" when FM stereo switching is set to AUTO.
15 16	—— ——	–	Open.
17	FM-L	O	Outputs "L" when an FM broadcast is received.
18	AM IN	I	Receives the AM local oscillator frequency signal.
19	FM IN	I	Receives the FM local oscillator frequency signal.
20	VDD	–	5V power supply pin.
21	E. O.	O	PLL charge pump output.
22	——	–	Open.
23	GND	–	GND.

SCHEMATIC DIAGRAM – 1 (Z87M)


A MAIN C.B
H RELAY-1 C.B
I RELAY-2 C.B
E.K MODEL
Z ONLY
E.K ONLY
TC601 CLOCK FREQ ADJ
L741 OC BALANCE MONO DISTORTION ADJ
FM IF AMP
FM MPX
IC721 TA7343AP
IC601 LC7218
IC601 PLL
FM MIX
FM OSC
FM BUFFER
Q851 FM RF AMP
RF AMP
MW TRACKING ADJ.
LW TRACKING ADJ.
FM TRACKING ADJ
TC801, 802, L802, 804
TC803 (Z) L831 (Z)
0941, 942, 943
1SS133X3
LW/MW SELECTOR SW
VCR/AUX INPUT LEVEL
IC741 LA1265
IC501 4BA15218N
EQ SELECTOR
I.P.B AMP
REC/PB FREQ. RESPONSE ADJ.
REC/PB SENS. ADJ.
BIAS OSC
BIAS VOLT CONST.
BIAS VOLTAGE CONT
REC. PB SELECTOR
REC AMP
Q503 LH CRO2 SENSITIVITY SELECTOR
BUFFER
INPUT SELECTOR
IC201, 202
IC201 TC4051BP FUNCTION (CCW)
IC202 TC4051BP FUNCTION (CW)
OVER CUR DET
DC DETECT
RESET
Q101, 102, 104, 105 CONST.VOLT.REG
VOLTAGE CONST.
RELAY DRIVER
POWER ON:12.0 OFF:0
Q151, 152, 161 MUTING
IC151 STK4162-2 POWER AMP
BT101
BT102
POWER-2 C.B
POWER-1 C.B
PHONES
SURROUND SPEAKERS
SPEAKERS
ANTENNA
VCR/AUX
PHONO
CD
E. Z: AC 220V 50HZ
K: AC 240V 50HZ
FROM B FRONT C.B
CON701
CON702
CON703
CON301
CON351
PIN151
PIN152
PIN153
PIN301
PIN351
PIN501
J901
J902
J151
J152
J150
J153
J154
J501
J502
J503
J504
J505
J506
J507
J508
J509
J510
J511
J512
J513
J514
J515
J516
J517
J518
J519
J520
J521
J522
J523
J524
J525
J526
J527
J528
J529
J530
J531
J532
J533
J534
J535
J536
J537
J538
J539
J540

A MAIN C.B

J901
ANTENNA

FM
75Ω

FM
75Ω

J902
MW/LW
LOOP

VR151
VCR/AUX
INPUT
LEVEL

J151-1, 2
VCR/AUX

J151-3, 4
PHONO

5 3 1
CON301
FROM H
RELAY-1 C.B

J152
CD

FROM K
POWER-2
C.B
BT102
YEL
BLK

J153
SURROUND
SPEAKERS

J154
SPEAKERS

R-CH

L-CH

1 3
CON501
FROM B FRONT C.B

1 3 5 7 9 11 13 15
CON701
FROM B FRONT C.B

1 3 5 7 9 11 13 15
CON702
FROM B FRONT C.B

1 3 5 7 9 10
CON703
FROM B FRONT C.B

J150
PHONES

8 7 5 3 1
CON351
FROM I RELAY-2 C.B

BLK
FROM K
POWER-2 C.B
BT101
YEL

GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

（プリント基板内のケミコンの極性表示はθ表示です。）

A MAIN C.B

J901
ANTENNA

MW/LW
LOOP

FM
75Ω

VR151
VCR/AUX
INPUT
LEVEL

J151-1, 2
VCR/AUX

J151-3, 4
PHONO

5 3 CON301
FROM H
RELAY-1 C.B

J152
CD

FROM K
POWER-2
C.B
BT102

YEL
BLK

J153
SURROUND
SPEAKERS

J154
SPEAKERS

R-CH

L-CH

1 3 CON501
FROM B FRONT C.B

1 3 5 7 9 11 13 15 CON701
FROM B FRONT C.B

1 3 5 7 9 11 13 15 CON702
FROM B FRONT C.B

1 3 5 7 9 10 CON703
FROM B FRONT C.B

J150
PHONES

8 7 5 3 1 CON351
FROM D RELAY-2 C.B

BLK
FROM K
POWER-2 C.B
BT101
YEL

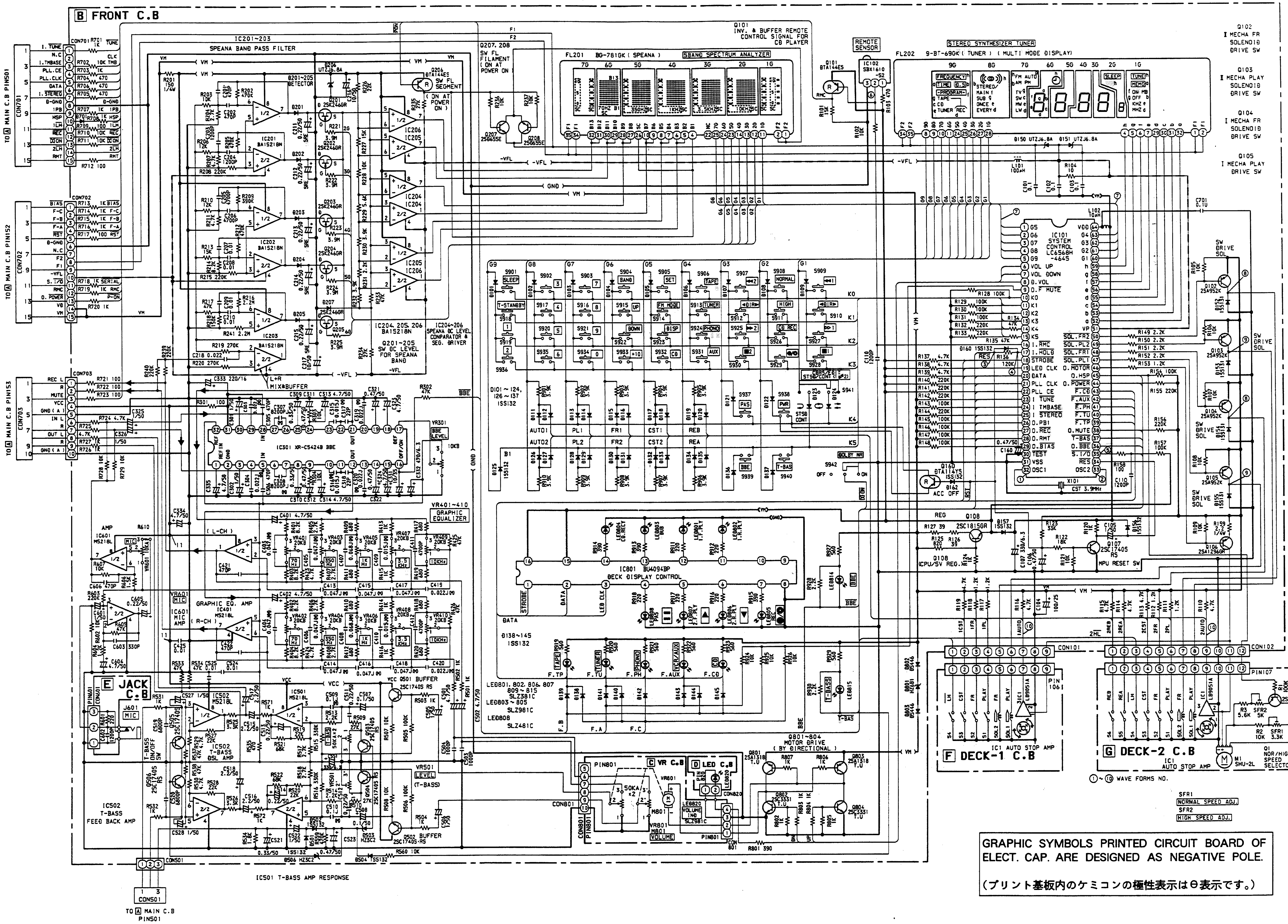
Z ONLY

Z87M Z85M ONLY

Z87M ONLY

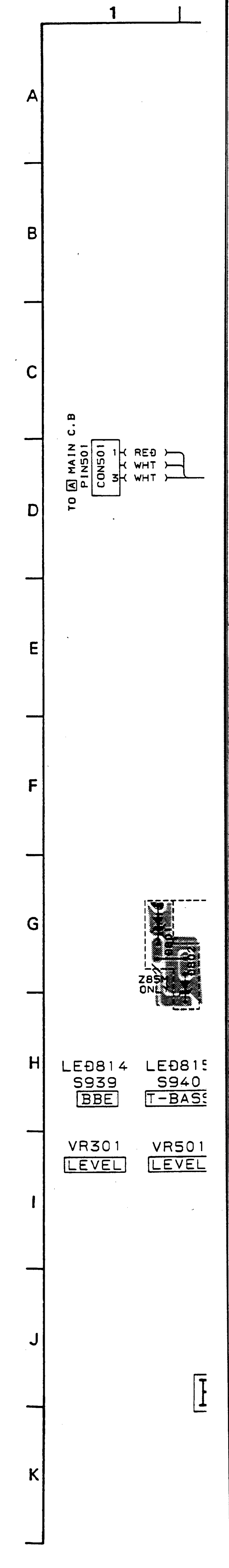
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

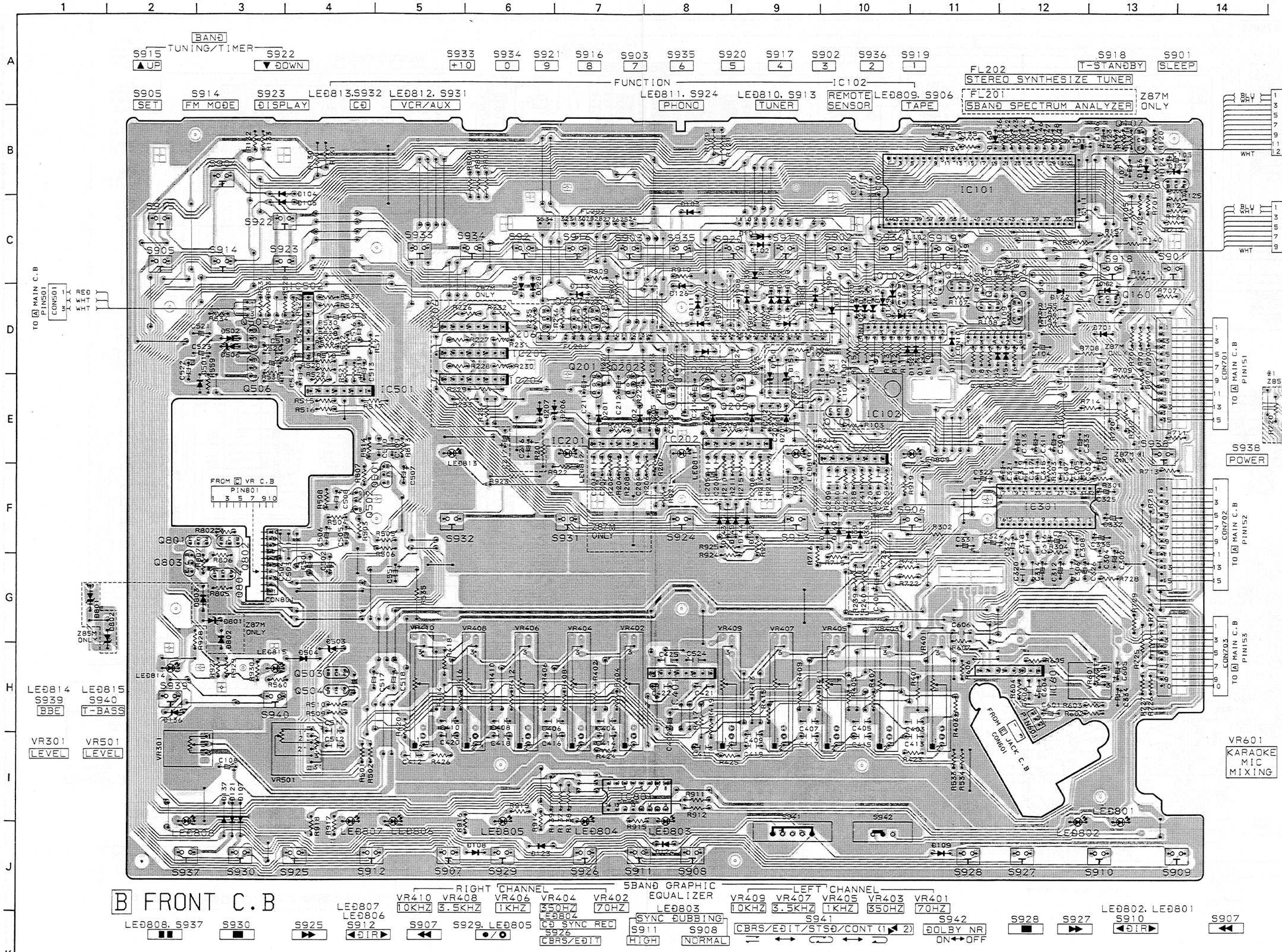
（プリント基板内のケミコンの極性表示はθ表示です。）


B FRONT C.B
IC201~203
SPEANA BAND PASS FILTER
IC204, 205, 206 BA15218N
IC204~206 SPEANA DC LEVEL COMPARATOR & SEG. DRIVER
Q201~205 SW DC LEVEL FOR SPEANA BAND
Q207, 208 SW FL FILAMENT (ON AT POWER ON)
Q101 INV. & BUFFER REMOTE CONTROL SIGNAL FOR CD PLAYER
REMOTE SENSOR
FL201 BG-781GK (SPEANA)
5BAND SPECTRUM ANALYZER
FL202 9-BT-69GK (TUNER) (MULTI MODE DISPLAY)
STEREO SYNTHESIZER TUNER
Q102 I MECHA FR SOLENOID DRIVE SW
Q103 I MECHA PLAY SOLENOID DRIVE SW
Q104 I MECHA FR SOLENOID DRIVE SW
Q105 I MECHA PLAY DRIVE SW
IC101 SYSTEM CONTROL LC6568H -4645
TO A MAIN C.B PIN501
TO A MAIN C.B PIN152
TO A MAIN C.B PIN153
IC301 XR-C5424B BBE
VR401~410 GRAPHIC EQUALIZER
GRAPHIC EQ. AMP IC401 M5218L
IC601 MIC AMP
IC801 BU4094BP DECK DISPLAY CONTROL
E JACK C.B
IC502 T-BASS DSL AMP
IC502 T-BASS FEED BACK AMP
IC501 T-BASS AMP RESPONSE
Q801~804 MOTOR DRIVE (BY DIRECTIONAL)
C VR C.B
D LED C.B
F DECK-1 C.B
G DECK-2 C.B
IC1 AUTO STOP AMP
Q1 NOR/HIGH SPEED SELECTOR SW
①~⑩ WAVE FORMS NO.
SFR1 NORMAL SPEED ADJ.
SFR2 HIGH SPEED ADJ.
TO A MAIN C.B PIN501

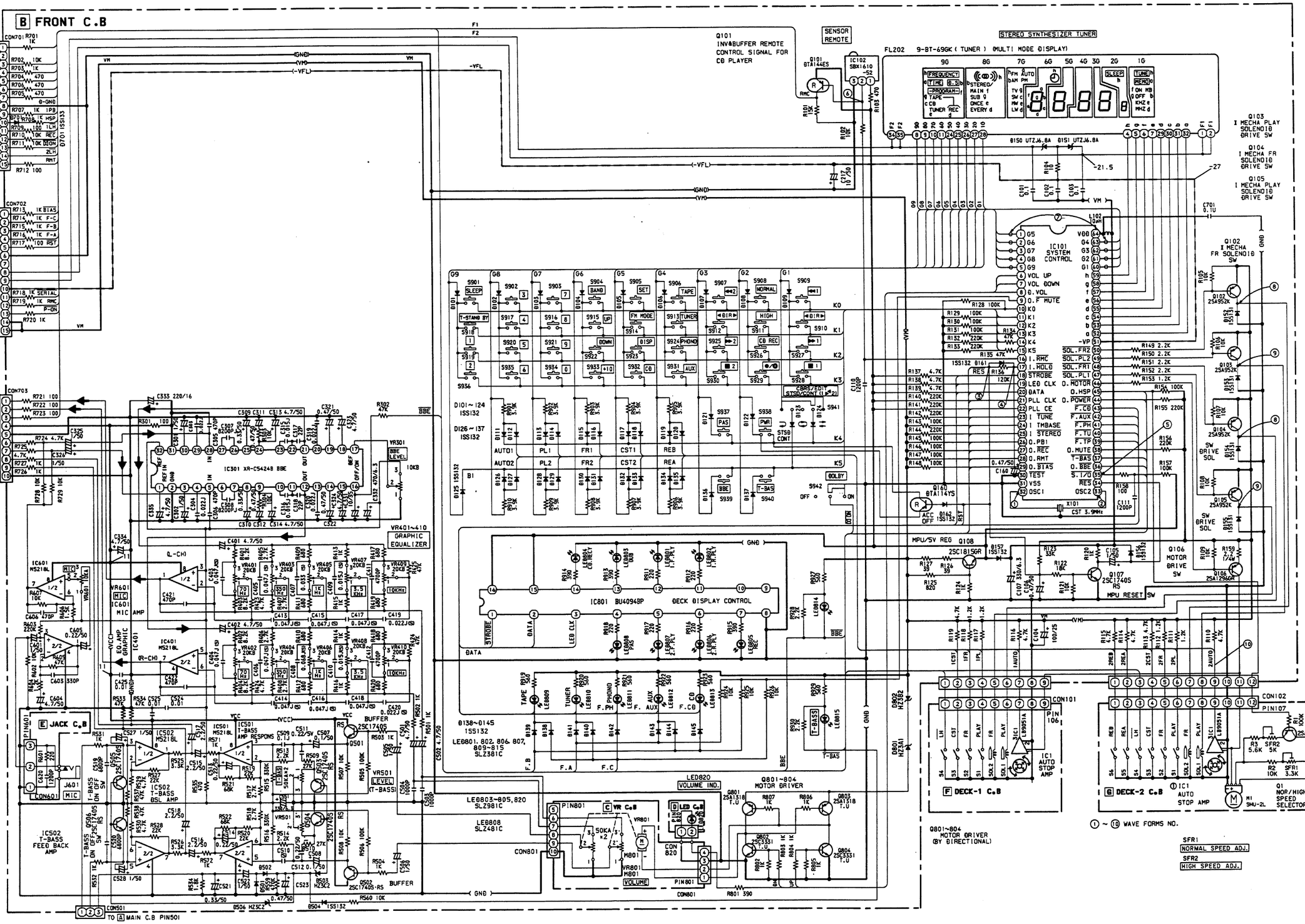
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

（プリント基板内のケミコンの極性表示はΘ表示です。）



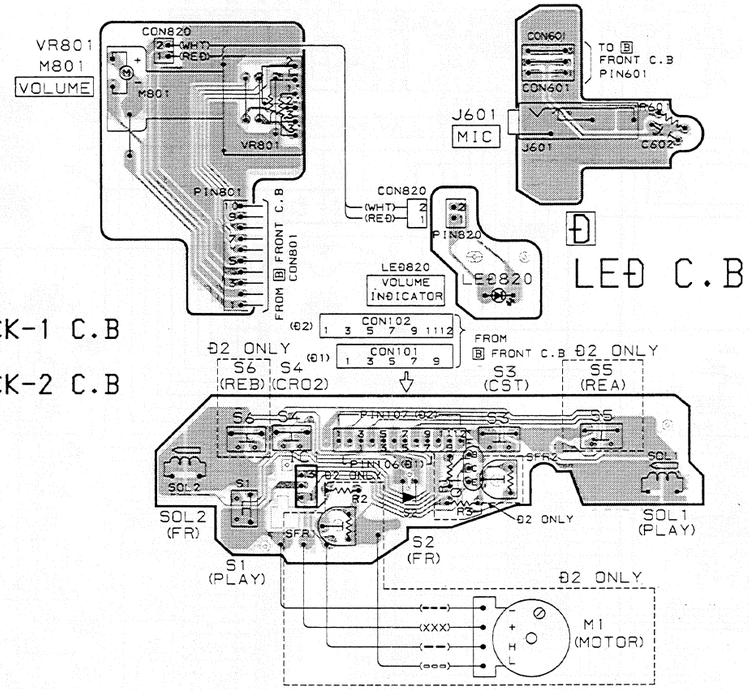

BAND
TUNING/TIMER
S915 ▲UP
S922 ▼DOWN
S933 +10
S934 0
S921 9
S916 8
S903 7
S935 6
S920 5
S917 4
S902 3
S936 2
S919 1
S918 T-STANDBY
S901 SLEEP
FUNCTION
IC102
FL202 STEREO SYNTHESIZE TUNER
FL201 5BAND SPECTRUM ANALYZER
Z87M ONLY
S905 SET
S914 FM MODE
S923 DISPLAY
LED813, S932 CD
LED812, S931 VCR/AUX
LED811, S924 PHONO
LED810, S913 TUNER
REMOTE SENSOR
LED809, S906 TAPE
TO A MAIN C.B PIN501
CON501
TO G BECK-2 C.B PIN107
CON102
TO F BECK-1 C.B PIN106
CON101
TO A MAIN C.B PIN151
CON701
TO A MAIN C.B PIN152
CON702
TO A MAIN C.B PIN153
CON703
FROM C VR C.B PIN801
CON801
FROM E JACK C.B CON601
S938 POWER
S941
S942
LED814 S939 BBE
LED815 S940 T-BASS
VR301 LEVEL
VR501 LEVEL
VR601 KARAOKE MIC MIXING
Q1 2SA933RS
SFR1 3.3K
01 NOR/HIGH SPEED SELECTOR SW
B FRONT C.B
LED808, S937 ■■
S930 ■
S925 ▶▶
S912 ◀DIR▶
S907 ◀◀
S929, LED805 ●/○
LED807 LED806
S926 CBRS/EDIT
LED804 CD SYNC REC
5BAND GRAPHIC EQUALIZER
RIGHT CHANNEL
VR410 10KHZ
VR408 3.5KHZ
VR406 1KHZ
VR404 350HZ
VR402 70HZ
LED803
LEFT CHANNEL
VR409 10KHZ
VR407 3.5KHZ
VR405 1KHZ
VR403 350HZ
VR401 70HZ
SYNC DUBBING
S911 HIGH
S908 NORMAL
S941 CBRS/EDIT/STSD/CONT (1 2)
S942 DOLBY NR ON↔OFF
S928 ■
S927 ▶▶
LED802, LED801
S910 ◀DIR▶
S907 ◀◀

SCHEMATIC DIAGRAM – 3 (Z85M)



C VR C.B

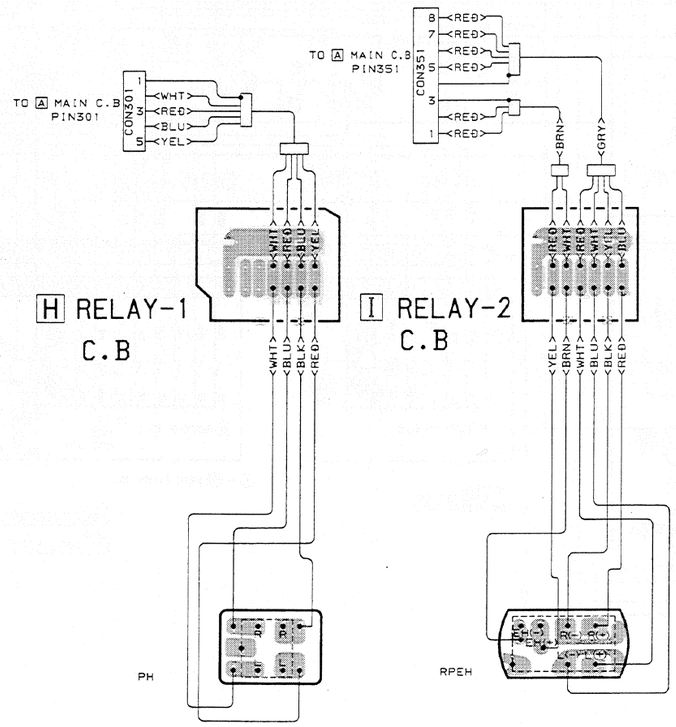
E JACK C.B



F D.ECK-1 C.B

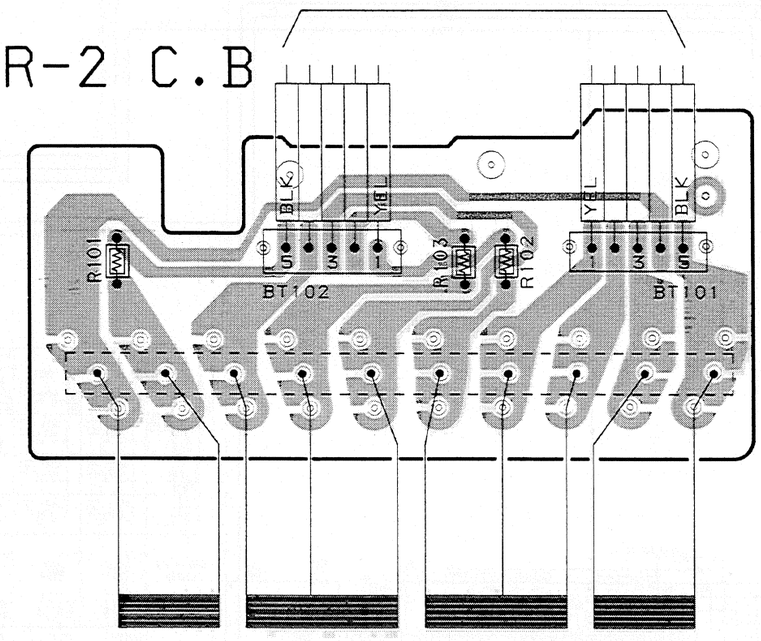
G D.ECK-2 C.B

D LED C.B

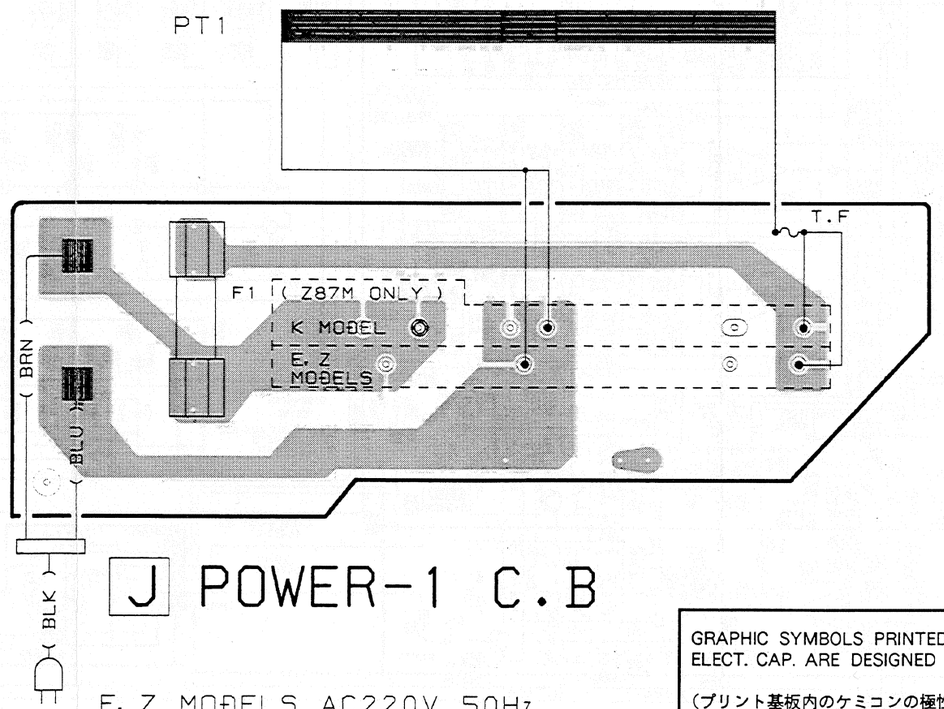


FROM A MAIN C.B

K POWER-2 C.B



PT1



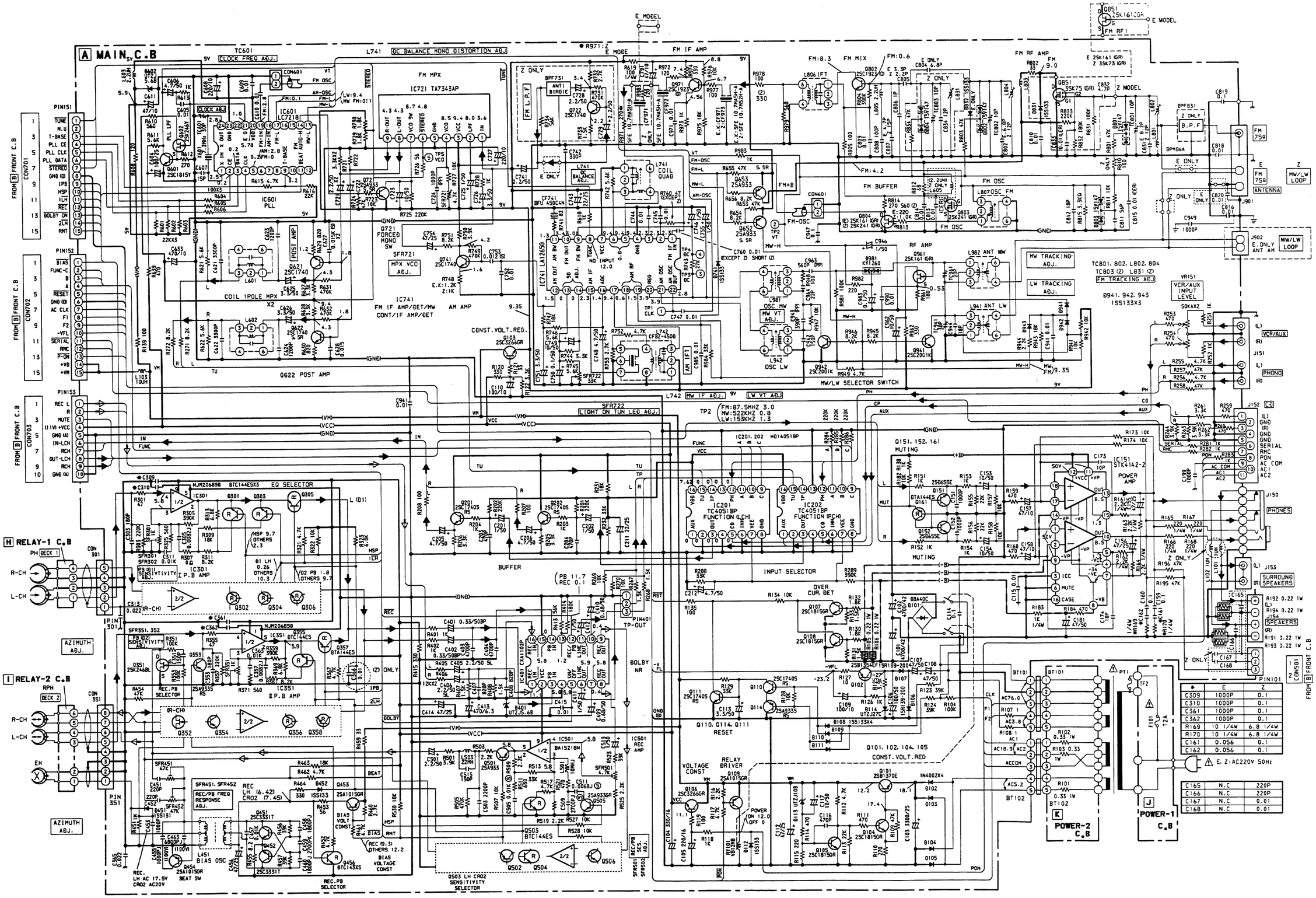
J POWER-1 C.B

E, Z MODELS AC220V 50Hz
K MODEL AC240V 50Hz

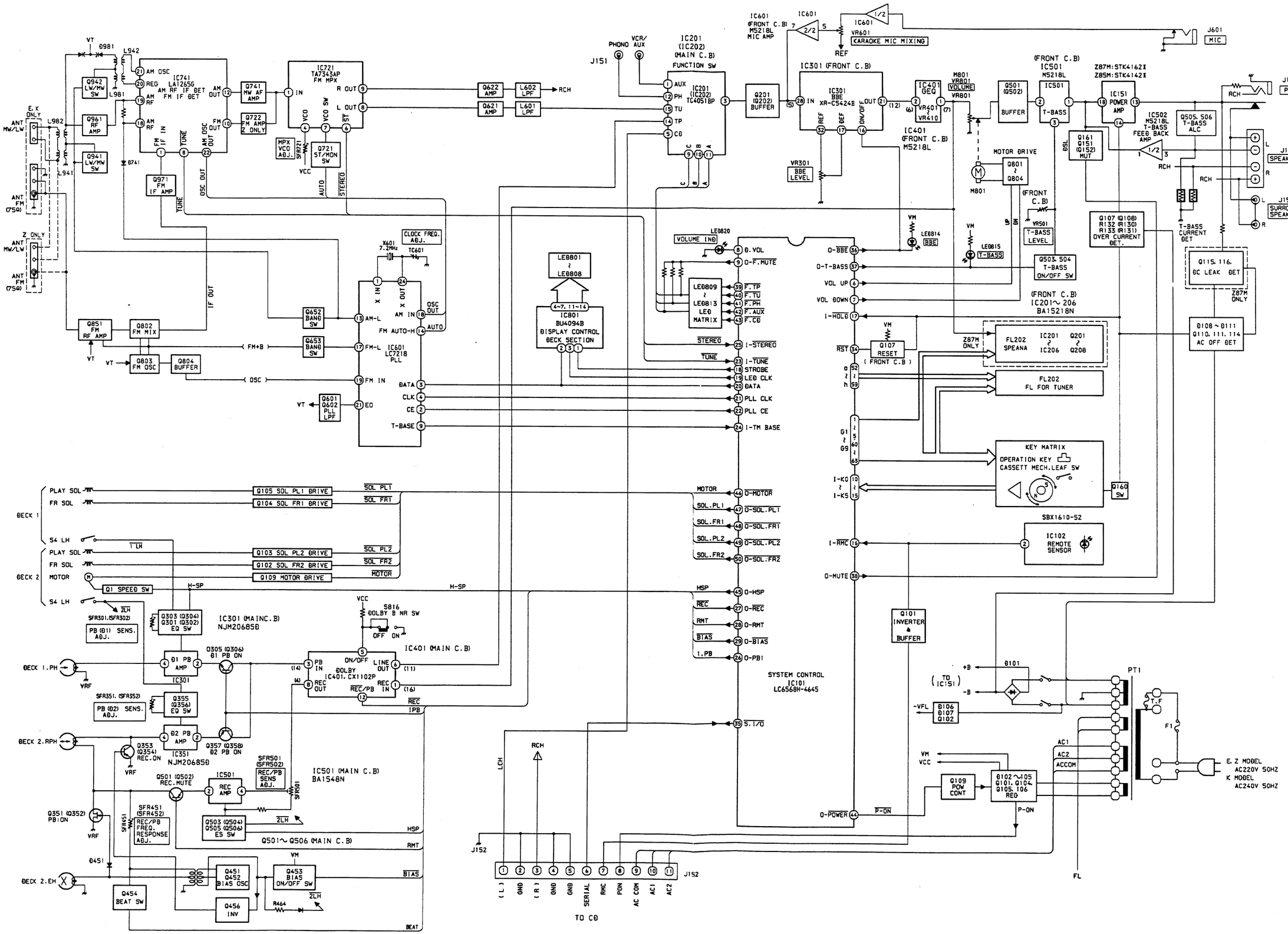
GRAPHIC SYMBOLS PRINTED CIRCUIT BOARD OF ELECT. CAP. ARE DESIGNED AS NEGATIVE POLE.

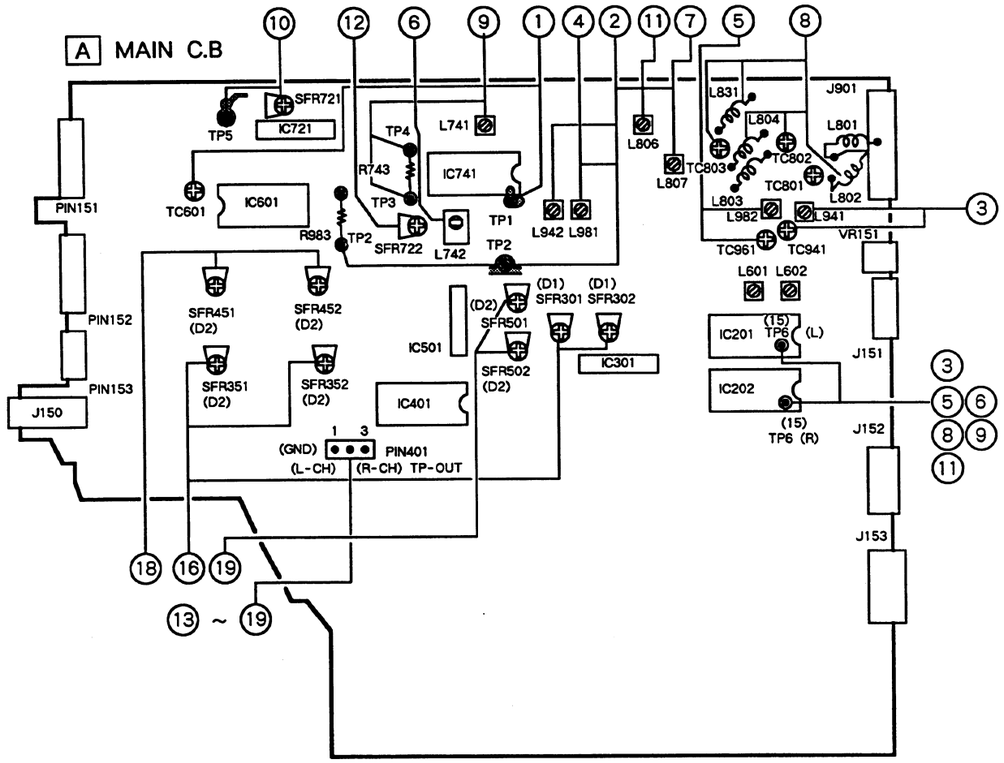
(プリント基板内のケミコンの極性表示はθ表示です。)

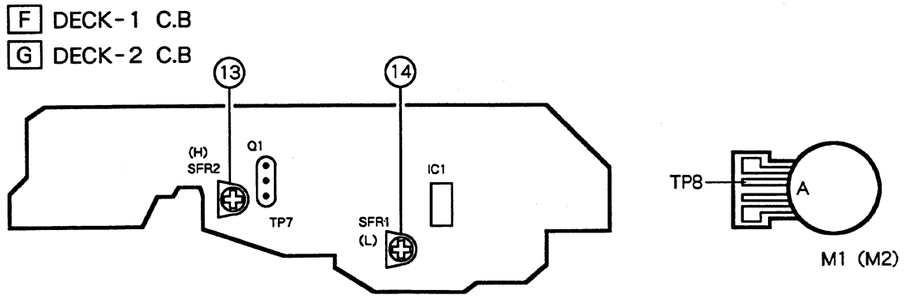
SCHEMATIC DIAGRAM – 4 (Z85M)


A MAIN SY C.B
TC601
CLOCK FREQ ADJ.
L741
QC BALANCE MONO DISTORTION ADJ
R971:Z
E MODEL
FM IF AMP
FM MPX
IC721 TA7343AP
IC601 LC7218
IC601 PLL
PLL LPF
FM L.P.F
BPF731
ANT/BIR01E
Q722 2SC1740
Q851 2SK161(GR)
FM RF1
FM RF AMP
FM MIX
FM BUFFER
FM OSC
L806 1FT
Q802 2SC1923
Q803 2SK241(GR)
Q804 2SK161(GR)
L807 OSC FM
BPF831
B.P.F
BPM86A
FM 75Ω
ANTENNA
J901
MW/LW LOOP
J902
E ONLY ANT AM
MW TRACKING ADJ.
LW TRACKING ADJ.
FM TRACKING ADJ.
TC801. 802. L802. 804
TC803 (Z) L831 (Z)
D941. 942. 943
1SS133X3
VR151
VCR/AUX INPUT LEVEL
50KAX2
IC741 LA1265D
FM IF AMP/DET/MW CONT/IF AMP/DET
AM AMP
Q721 FORCED MONO SW
SFR721
MPX VCC ADJ.
COIL 1POLE MPX
Q622 POST AMP
POST AMP
CBNST.VOLT.REG.
Q103 2SC3266GR
IC741 COIL QUAD
L741 BALANCE ADJ.
OSC MW
OSC LW
MW VT ADJ.
L942 OSC LW
RF AMP
MW/LW SELECTOR SWITCH
L742 MW IF ADJ.
LW VT ADJ
SFR722
LIGHT ON TUN LED ADJ.
TP2 (FM:87.5MHZ 3.0 MW:522KHZ 0.8 LW:153KHZ 1.3
IC201. 202 HD14051BP
IC201 TC4051BP FUNCTION (LCH)
IC202 TC4051BP FUNCTION (RCH)
Q151. 152. 161 MUTING
MUTING
IC151 STK4142-2
POWER AMP
INPUT SELECTOR
BUFFER
OVER CUR. DET
Q107 2SC1815GR
Q108 2SC1815GR
Q110. Q114. Q111 RESET
Q101. 102. 104. 105 CONST.VOLT.REG
VOLTAGE CONST
RELAY DRIVER
Q109 2SA1015GR
Q106 2SC3266GR
POWER ON 12.0 OFF 0
BT101
BT102
PT1
TF2
F101 T2A
POWER-2 C.B
POWER-1 C.B
J150 PHONES
J153 SURROUND SPEAKERS
J154 SPEAKERS
J151 VCR/AUX PHONO
J152 CD
H RELAY-1 C.B
I RELAY-2 C.B
EQ SELECTOR
NJM2068SB
BTC144ESX3
IC301 I.P.B AMP
IC351 I.P.B AMP
IC351 BTC144ES
AZIMUTH ADJ.
REC/PB FREQ RESPONSE ADJ.
L451 BIAS OSC
BIAS VOLT CONST
REC.PB SELECTOR
Q503 LH CRO2 SENSITIVITY SELECTOR
IC501 REC AMP
BA1521BN
Q501 2SA933
Q502 Q504 Q506
REC/PB ADJ.
SFR501 SFR502
PIN101
PIN151
PIN152
PIN153
PIN301
PIN351
CON701
CON702
CON703
CON301
CON351
CON601
FROM B FRONT C.B
TO B FRONT C.B
TO I CON501
E MODE
Z ONLY
E ONLY
Z MODEL
E 2SK161(GR) Z 35K75(GR)
E: 2SK161(GR) Z: 2SK241(GR)
E: 2SK161(GR) Z: 35K75(GR)
E: 2SC1740S Z: 2SC1923
E: KF971 Z: KF973
E: SFE 10.7MA5H-A Z: SFE 10.7MS2H-A
E: 2SA933S Z: 2SA933
E: 2SC1740S Z: 2SC1740
E: 2SA1015GR Z: 2SA933GR
E: 2SC3331T Z: 2SC3331
E: 2SA1015GR Z: 2SA1015
E: 2SB1370E Z: 2SB1370
E: 2SD1898 Z: 2SD1898
E: 2SC1815GR Z: 2SC1815GR
E: 2SA1015GR Z: 2SA1015GR
E: 2SC3266GR Z: 2SC3266GR
E: 2SC1740S Z: 2SC1740
E: 2SA933S Z: 2SA933
E: 2SA1015GR Z: 2SA1015GR
E: 2SC3331T Z: 2SC3331
E: 2SA1015GR Z: 2SA1015GR

BLOCK DIAGRAM







Initialized Condition
- GEQ VR : Center
- BBE SW : OFF
- MIC VR : Minimum
- BALANCE VR : Center
- VR : Minimum
- DOLBY NR SW : OFF
- T-BASS : OFF
- Standard Input Level : 1V, 0dB (AMP)
  -14.3dB, 0VU (AUX IN, DECK)

(TUNER SECTION)

1. Clock Frequency Adjustment
   Settings : • Test point : TP1 (CLK)
   • Adjustment location : TC601
   Method : Set to AM 1602kHz (H), 1611kHz (E, K, Z) adjust so that the test point becomes 2052kHz ± 0.01kHz (H), 2061kHz ± 0.01kHz (E, K, Z).

2. LW VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L942
   Method : Set to LW 144kHz (E, K, Z) and adjust so that the test point becomes 1.0V ± 0.05V.

3. LW Tracking Adjustment
   Settings : • Test point : TP6 (IC201, 202, PIN15)
   L941 ····· 144kHz (E, K, Z)
   TC941 ····· 290kHz (E, K, Z)

4. AM VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L981
   Method : Set to AM 531kHz (H), 522kHz (E, K, Z) and adjust so that the test point becomes 1.1V ± 0.05V (H), 0.8V ± 0.05V (E, K, Z)

5. AM Tracking Adjustment
   Settings : • Test point : TP6 (IC201, 202, PIN15)
   L982 ····· 603kHz
   TC961 ····· 1404kHz

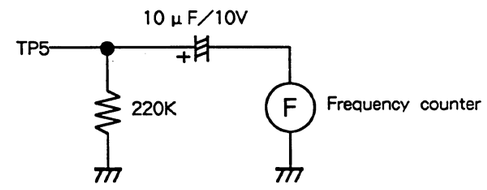
6. AM IF Adjustment
   Settings : • Test point : TP6 (IC201, 202, PIN15)
   L742 ····· 450kHz

7. FM VT Adjustment
   Settings : • Test point : TP2 (VT)
   • Adjustment location : L807
   Method : Set to FM 87.5MHz and adjust L807 so that the test point becomes 3.0V ± 0.05V.

8. FM Tracking Adjustment
   Settings : • Test point : TP6 (IC201, 202, PIN15)
   TC801, TC802 (H, E, K) ····· 108MHz
   TC803 (Z) ····· 108MHz
   L802, L804 (H, E, K) ····· 87.5MHz
   L831 (Z) ····· 87.5MHz

9. DC Balance/MONO Distortion Adjustment
   Settings : • Test point : TP3, TP4 (DC balance)
   TP6 (IC201, 202, PIN15) (Distortion)
   • Adjustment location : L741
   Method : Set to FM 98.0MHz and adjust L741 so that TP3 and TP4 output becomes 0V ± 0.02V. Next, adjust L741 so that the distortion becomes minimum (less than 0.8%).

10. MPX VCO Adjustment
    Settings : • Test point : TP5
    • MODE SW : STEREO
    • Adjustment location : SFR721
    Method : Connect a capacitor and a resistor as below. Set to FM 98.0MHz and adjust so that the frequency at test point becomes 38kHz ± 0.05kHz.



11. FM IF Adjustment
    Settings : • Test point : TP6 (IC201, 202, PIN15)
    L806 ····· 10.7MHz

12. Light on tuning LED Adjustment
    Settings : • Adjustment location : SFR722
    • Input level : 20dB
    Method : Set to FM 98.0MHz and adjust TUNING LED to light on by SFR722. After that, LED goes out by 2dB down.

(DECK SECTION)

13. High Speed Adjustment
    Settings : • Test tape : TTA-100 (TTA-111S)
    • Test point : TP-OUT (PIN401)
    • Adjustment location : SFR2 "H"
    Method : Play back the test tape, and make the high speed condition to be shorted between TP7 and TP8. Adjust for 5990Hz ± 20Hz.

14. Normal Speed Adjustment
    Settings : • Test tape : TTA-100 (TTA-111S)
    • Test point : TP-OUT (PIN401)
    • Adjustment location : SFR1 "L" (DECK-1)
    Method : Play back the test tape, on FWD PLAY (DECK-1) adjust for 3000Hz ± 7Hz.

15. Head Azimuth Adjustment (DECK-1, DECK-2)
    Settings : • Test tape : TTS-310 (TTA-317E, SCC-1429)
    • Test point : TP-OUT (PIN401)
    • Adjustment location : Head azimuth adjustment screw
    Method : Play back the 10kHz signal of the test tape and adjust so that the output becomes maximum. Next, perform on each FWD PLAY and REW PLAY mode.

16. PB Sensitivity Adjustment (DECK-1, DECK-2)
Settings : • Test tape : TTS-200 (TCC-130, TTA-161)
• Test point : TP-OUT (PIN401)
• Adjustment location :
SFR301 (DECK-1, Lch)
SFR302 (DECK-1, Rch)
SFR351 (DECK-2, Lch)
SFR352 (DECK-2, Rch)
Method : Play back the test tape and adjust so that the output becomes 388mV.

17. PB Frequency Response Check (DECK-1, DECK-2)
Settings : • Test tape : TTS-310 (TTA-317E, SCC-1429)
• Test point : TP-OUT (PIN401)
Method : Play back the 315Hz and 10kHz signals of the test tape and check that the output of the 10kHz signal is 0dB ± 2dB with respect to that of the 315Hz signal.

18. REC/PB Frequency Response Adjustment (DECK-2)
Settings : • Test tape : TTA-600 (TTA-119K)
• Test point : TP-OUT (PIN401)
• Input signal : 1kHz/10kHz (VCR/AUX IN)
• Adjustment location : SFR451 (Lch)
SFR452 (Rch)
Method : Apply a 1kHz signal and adjust attenuator so that the level at the TP-OUT is 27mV. Record and play back the 1kHz and 10kHz signals and adjust so that the output level of 10kHz signal is 0dB ± 0.5dB for 1kHz signal.

19. REC/PB Sensitivity Adjustment (DECK-2)
Settings : • Test tape : TTA-600 (TTA-119K)
• Test point : TP-OUT (PIN401)
• Input signal : 1kHz (VCR/AUX IN)
• Adjustment location : SFR501 (Lch)
SFR502 (Rch)
Method : Apply a 1kHz signal and adjust attenuator so that the level at the TP-OUT is 27mV. Record and play back the 1kHz signal and adjust SFR501 and SFR502 so that the output level is 27mV ± 0.5dB.

PRACTICAL SERVICE FIGURE

< TUNER SECTION >
< FM SECTION >

IHF Sensitivity:	2 ± 6dB (E,K)
(THD 3%)	7 ± 6dB (Z)
	(at 87.5/98.0/108.0MHz)
S/N 50dB Quieting Sensitivity:	
	30 ± 5dB (E,K)
	(at 87.5/98.0/108.0MHz)
(S/N 46dB)	32 ± 6dB (Z)
	(at 87.5/98.0/108.0MHz)
Signal to Noise Ratio:	(MONO.)
	More than 68dB
	(at 98.0MHz)
	(STEREO)
	More than 65dB (E,K)
	(at 98.0MHz)
	More than 60dB (Z)
	(at 98.0MHz)
Distortion:	(MONO.)
	Less than 0.6%
	(at 98.0MHz)
	(STEREO)
	Less than 0.8%
	(at 98.0MHz)
Stereo Separation:	More than 27dB
Intermediate Frequency:	10.7MHz

< MW (AM) Section >

Sensitivity:	56 ± 6dB
(S/N 20dB)	(at 603kHz)
	52 ± 5dB
	(at 999kHz)
	51 ± 6dB
	(at 1404kHz)
Distortion:	Less than 2.0%
	(at 999kHz (H,E,Z))
Intermediate Frequency:	450kHz

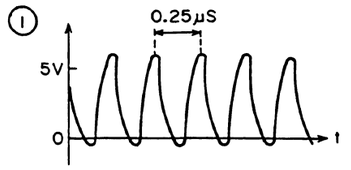
< LW SECTION > (E,Z)

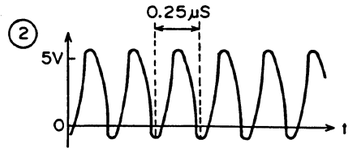
Sensitivity:	63 ± 5dB
(S/N 20dB)	(at 144/198/290kHz)
Distortion:	Less than 1.5% (at 198kHz)
Intermediate Frequency:	450kHz

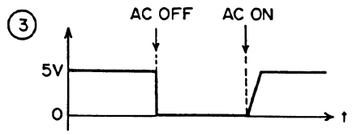
< DECK SECTION >

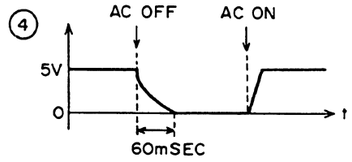
PB Output Level:	3.7V ± 1.5dB (SP OUT)
(TTS – 200 (TCC – 130, TTA – 161))	
REC/PB Output Level:	1.7V ± 2.0dB
(SP OUT, VR 2V)	
Distortion(REC/PB):	Less than 2% (NORM., CrO2)
Noise(PB):	Less than 120mV/200mV
	(DOLBY B NR ON/OFF
	CrO2,VR MAX.)
	Less than 160mV/300mV
	(DOLBY B NR ON/OFF
	NORM., VR MAX.)
Erasing Ratio:	More than 57dB (125Hz)
Channel Separation:	More than 32dB (1kHz, 0VU)
Recording Bias Frequency:	85kHz
Noise(REC/PB):	Less than 14mV/30mV
	(DOLBY B NR ON/OFF
	NORM, SP OUT, VR 2V)
	Less than 11.5mV/20mV
	(DOLBY B NR ON/OFF
	CrO2, SP OUT, VR 2V)
Crosstalk:	More than 60dB (1kHz, 0VU)
Wow&Flutter(W-RMS):	Less than 0.25% (DECK – 1, 2)
Tape Speed:	3000Hz ± 1.5%
[TTA – 100 (TTA – 111S)]	
Take – up Torque:	25~60g – cm (DECK – 1, 2)
F.F & REW Torque:	70~150g – cm (DECK – 1, 2)
Back Tension:	2~6g – cm (DECK – 1, 2)
Test Tape:	NORMAL TTA – 600 (TTA – 119K)
	CrO2 TTA – 610 (TTA – 119H)
	MT TTA – 620 (TTA – 119MP)

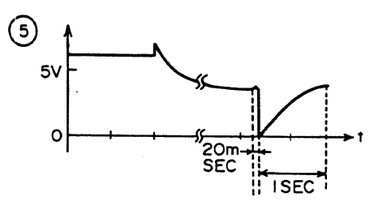
WAVE FORM

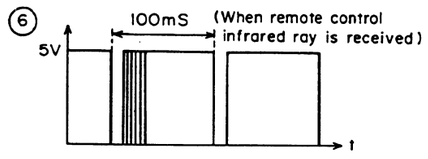


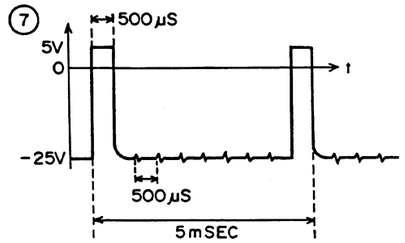


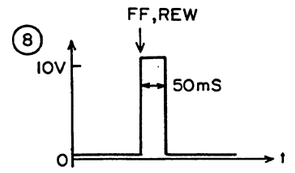


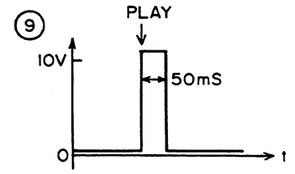


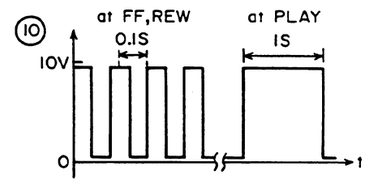




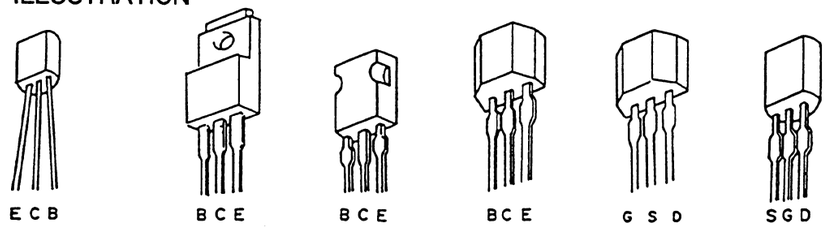








TRANSISTOR ILLUSTRATION



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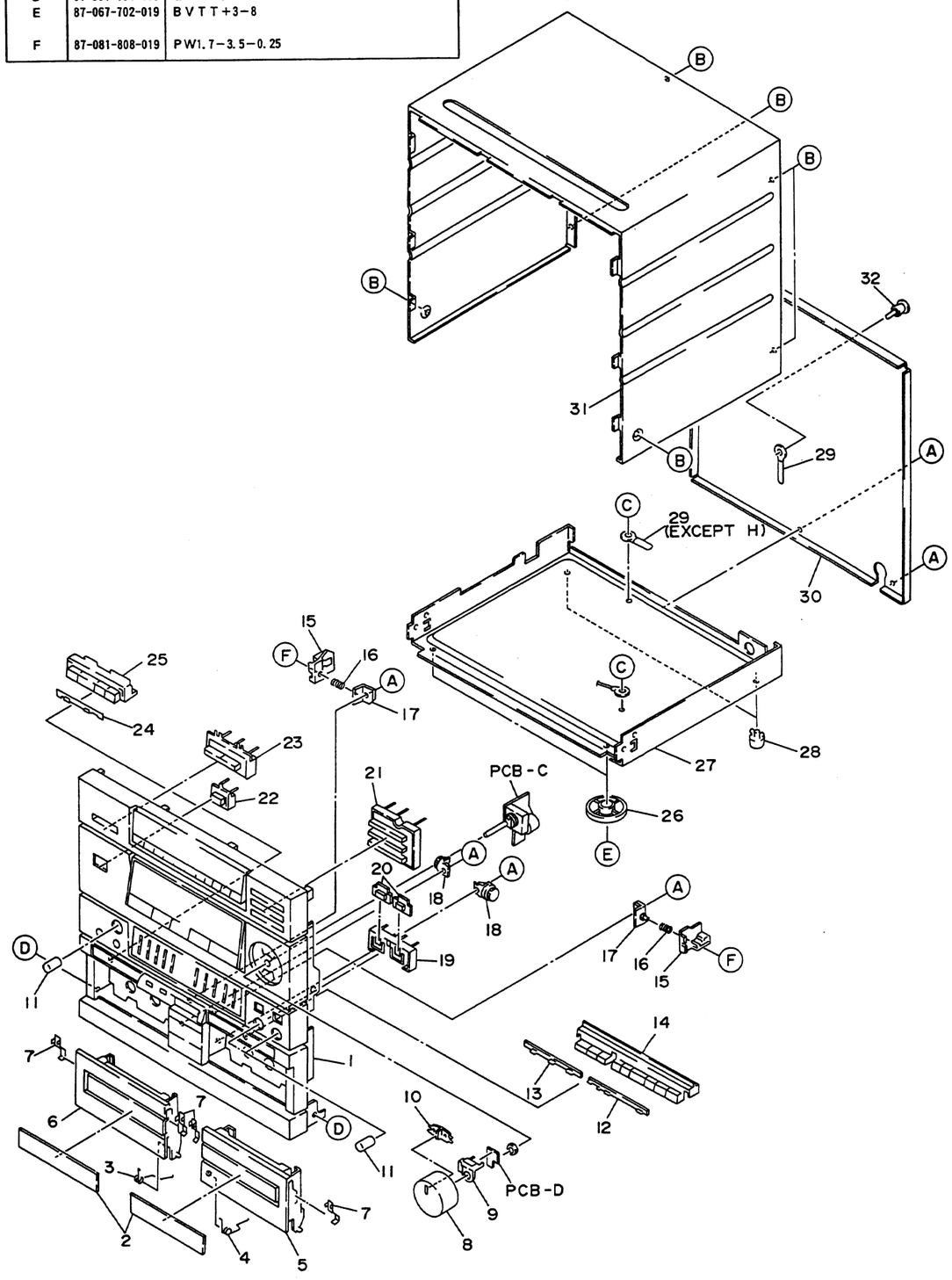
2SA1296	2SC1923			DTA144	2SK241	
2SA1318	2AC3266			DTC143		
2SA933	2SC3331			DTC144		
2SA952	2SD655					
2SC1740						

EXPLODED VIEW – 1

REF. NO.	PART NO.	DESCRIPTION
A	87-067-703-019	BVT2+3-10 W/O SLOT
B	87-743-095-419	SCREW UT2+3-8 W/O SLOT (B)
C	87-067-584-019	BVT2+3-6 W/O SLOT
D	87-591-094-419	QIT+3-6
E	87-067-702-019	BVTT+3-8
F	87-081-808-019	PW1.7-3.5-0.25

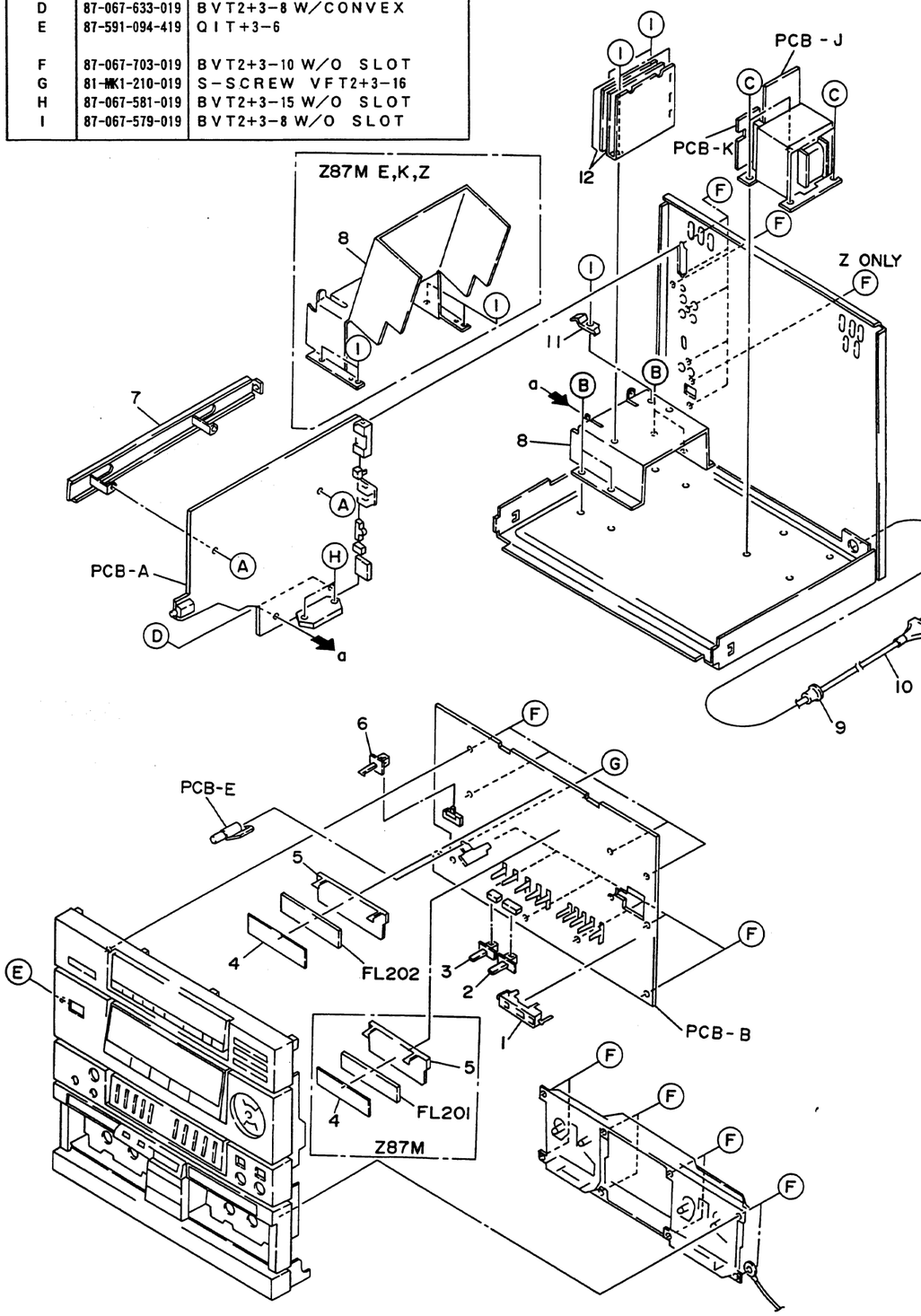


MECHANICAL PARTS LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	1-1	★09-047-662-010	FRONT CABINET ASSY (Z87M H)	※	1
	1-1	★09-047-663-010	FRONT CABINET ASSY (Z87M AH)	※	1
	1-1	★09-047-664-010	FRONT CABINET ASSY (Z87M E,K,Z)	※	1
	1-1	★09-047-677-010	FRONT CABINET ASSY (Z85M H)	※	1
	1-1	★09-047-678-010	FRONT CABINET ASSY (Z85M E,Z)	※	1
	1-2	★81-MK1-031-019	WINDOW,BOX	※	2
	1-3	★81-MK1-202-019	T-SPRING,EJECT 1	※	1
	1-4	★81-MK1-203-019	T-SPRING,EJECT 2	※	1
	1-5	★81-MK1-004-019	BOX,CASSETTE 2 (H,AH)	※	1
	1-5	★81-MK1-055-019	BOX,CASSETTE 2 (EXCEPT H,AH)	※	1
	1-6	★81-MK1-003-019	BOX,CASSETTE 1 (H,AH)	※	1
	1-6	★81-MK1-054-019	BOX,CASSETTE 1 (EXCEPT H,AH)	※	1
	1-7	★82-202-217-110	P-SPRING,CASSETTE HOLDER		4
	1-8	★81-MK1-016-019	KNOB,ROTARY VOLUME	※	1
	1-9	★81-MK1-206-019	GUIDE,LED VOLUME	※	1
	1-10	★81-MK1-033-019	LIGHT,GUIDE VOLUME	※	1
	1-11	★81-MK1-017-019	KNOB,ROTARY BBE	※	3
	1-12	★81-MK1-022-019	LIGHT,GUIDE PLAY	※	1
	1-13	★81-MK1-023-019	LIGHT,GUIDE DUBBING	※	1
	1-14	★81-MK1-013-019	KEY,DECK 2	※	1
	1-15	★80-CD3-233-010	PLATE,LOCK		2
	1-16	★81-715-234-019	C-SPRING,LOCK PLATE		2
	1-17	★81-693-209-010	HOLDER LOCK ASSY		2
	1-18	★87-063-143-010	DAMPER,OIL 75		2
	1-19	★81-MK1-204-019	KEY,BASE	※	1
	1-20	★81-MK1-021-019	LIGHT,BBE	※	2
	1-21	★81-MK1-010-019	KEY,BAND	※	1
	1-22	★81-MK1-011-019	KEY,POWER	※	1
	1-23	★81-MK1-009-019	KEY,SLEEP	※	1
	1-24	★81-MK1-024-019	LIGHT,GUIDE PAUSE	※	1
	1-25	★81-MK1-012-019	KEY,DECK 1	※	1
	1-26	★87-085-215-010	FOOT,H12 DIA58		2
	1-27	---	CHASSIS,MAIN		1
	1-28	★87-085-214-010	FOOT,H16		2
	1-29	---	BINDER,WIRE		1(H) 2(EXCEPT H)
	1-30	★81-MK1-002-019	PANEL,REAR (Z87M H)	※	1
	1-30	★81-MK1-040-019	PANEL,REAR (Z87M HJ)	※	1
	1-30	★81-MK1-050-019	PANEL,REAR (Z87M AH)	※	1
	1-30	★81-MK1-037-019	PANEL,REAR (Z87M E)	※	1
	1-30	★81-MK1-038-019	PANEL,REAR (Z87M K)	※	1
	1-30	★81-MK1-039-019	PANEL,REAR (Z87M Z)	※	1
	1-30	★81-MK2-006-019	PANEL,REAR (Z85M H)	※	1
	1-30	★81-MK2-014-019	PANEL,REAR (Z85M EN)	※	1
	1-30	★81-MK2-007-019	PANEL,REAR (Z85M ENE)	※	1
	1-30	★81-MK2-015-019	PANEL,REAR (Z85M ZN)	※	1
	1-30	★81-MK2-009-019	PANEL,REAR (Z85M ZNE)	※	1
	1-31	★81-MK1-005-019	CABINET,STEEL	※	1
	1-32	★87-084-077-019	RIVET,NYLON DIA3.5-4.5		1

EXPLODED VIEW – 2

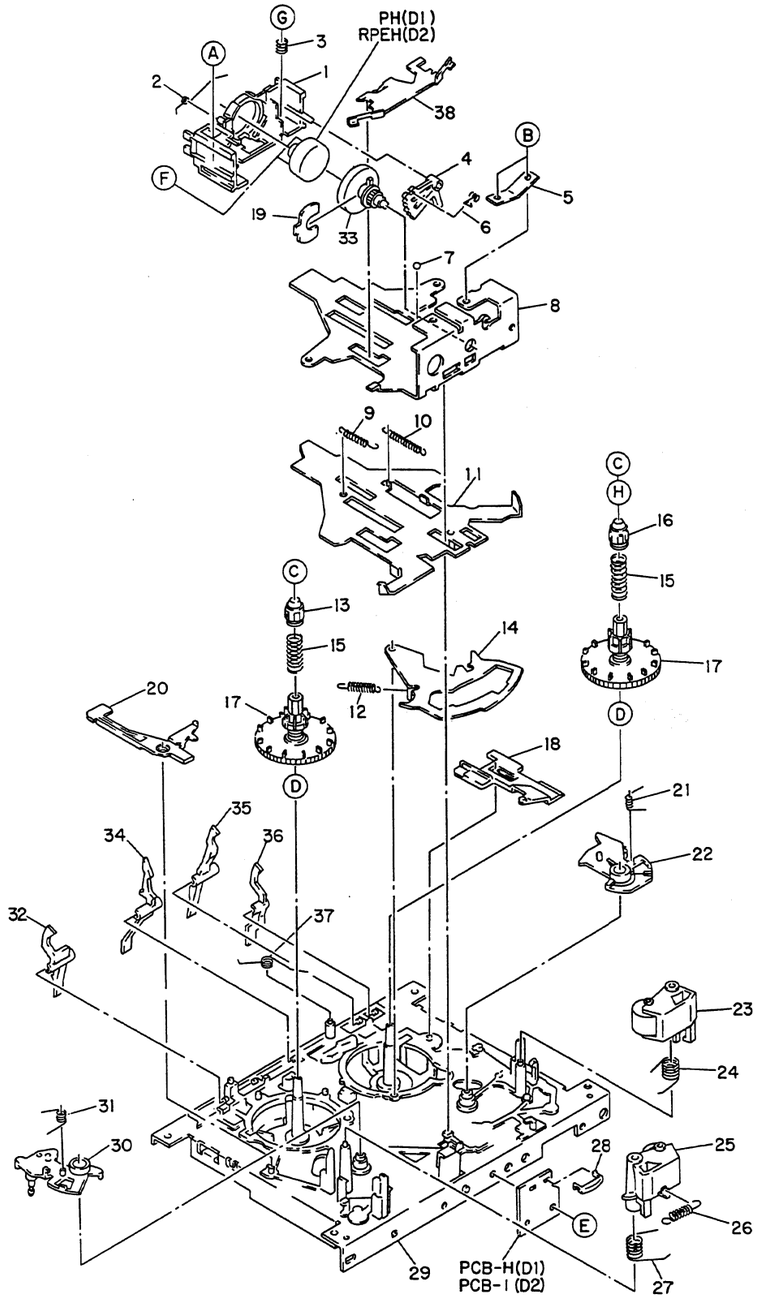
REF. NO.	PART NO.	DESCRIPTION
A	87-067-702-019	BVTT+3-8
B	87-067-584-019	BVT2+3-6 W/O SLOT
C	87-067-585-019	BVTT+4-6
D	87-067-633-019	BVT2+3-8 W/CONVEX
E	87-591-094-419	QIT+3-6
F	87-067-703-019	BVT2+3-10 W/O SLOT
G	81-MK1-210-019	S-SCREW VFT2+3-16
H	87-067-581-019	BVT2+3-15 W/O SLOT
I	87-067-579-019	BVT2+3-8 W/O SLOT



PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	2-1	★81-MK1-205-019	GUIDE,LED BBE	※	1
	2-2	★81-MK1-018-019	KNOB,SLIDE MODE	※	1
	2-3	★81-MK1-019-019	KNOB,SLIDE DOLBY	※	1
	2-4	★81-690-011-019	FILTER,TU		2(Z87M) 1(Z85M)
	2-5	★81-690-201-110	GUIDE,FL		2(Z87M) 1(Z85M)
	2-6	★81-MK1-020-019	KNOB,SLIDE MIC (Z87M H)	※	1
	2-7	★89-MK1-204-019	HOLDER,P.C.B (Z87M H,AH,Z85M H,EN,ZN)		1
	2-7	★89-MK1-213-018	HOLDER,P.C.B (Z87M E,K,Z,Z85M ENE,ZNE)		1
	2-8	---	HEAT SINK		1
	2-9	★87-085-185-010	BUSHING,AC CORD (Z87M H,E,K,Z,Z85M E,Z)		1
	2-9	★87-085-184-010	BUSHING,AC CORD (Z87M HJ,AH,Z85M H)		1
	2-10	★87-034-781-018	CORD,AC (Z87M H,E,Z,Z85M ENE,ZNE)		1
	2-10	★87-034-749-019	CORD,AC (Z87M HJ,AH,Z85M H)		1
	2-10	★87-034-592-018	CORD,AC (Z87M K)		1
	2-10	★82-187-797-019	CORD,AC (Z85M EN,ZN)		1
	2-11	---	HOLDER,IC		1
	2-12	---	HEAT,SINK FIN (Z85M EN,ZN)		2

EXPLODED VIEW – 3

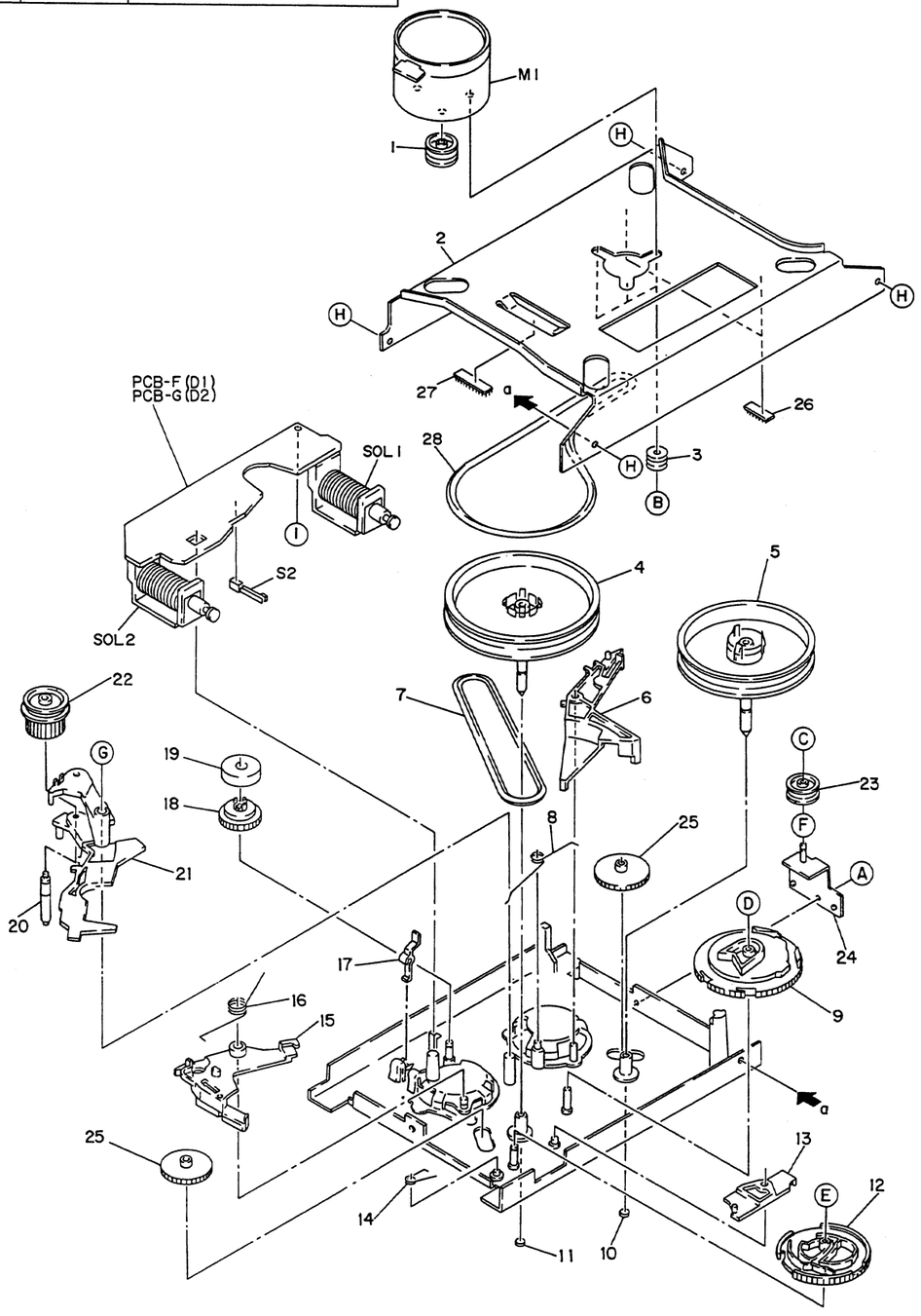
REF. NO.	PART NO.	DESCRIPTION
A	87-263-033-119	V+2-4
B	80-ZM6-251-019	S-SCREW AZIMUTH 2
C	86-524-418-019	SCREW VFT2+1.4-5
D	87-067-825-010	PW4.1-6.9-0.25
E	87-067-174-019	SCREW VTT+2-4
F	80-ZM6-207-019	V+1.6-7
G	87-251-036-219	SCREW U+2-8
H	87-067-476-010	LW1.63-3.8-0.25



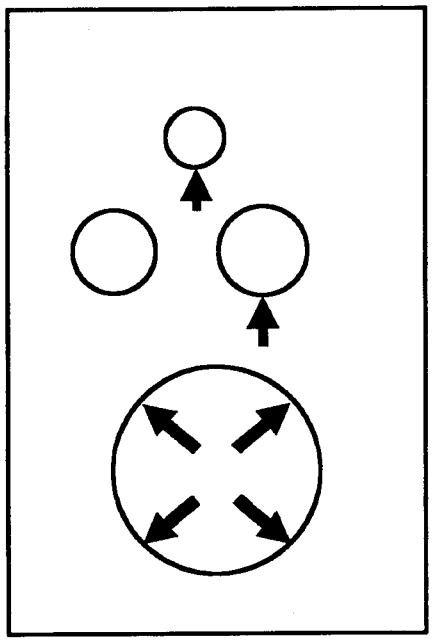
PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	3-1	★86-575-288-410	GUIDE,TAPE		1
	3-2	★86-575-310-110	T-SPRING,HEAD		1
	3-3	★86-541-318-119	C-SPRING,AZIMUTH		1
	3-4	★86-575-290-210	GEAR,SEGMENT		1
	3-5	★86-575-343-110	P-SPRING,AZIMUTH 2		1
	3-6	★80-ZM6-229-110	T-SPRING,GEAR SEG 2		1
	3-7	★87-073-018-019	BALL,STEEL 1.588		1
	3-8	★86-575-311-410	CHASSIS,HEAD		1
	3-9	★86-535-285-119	E-SPRING,SLIDE		1
	3-10	★86-575-226-019	E-SPRING,CHASSIS HEAD		1
	3-11	★86-535-215-310	SLIDE PLATE ASSY		1
	3-12	★86-535-284-010	E-SPRING,LEVER DIRECTION		1
	3-13	★86-524-218-219	STOPPER,REEL TABLE S		1
	3-14	★86-535-218-210	DIRECTION LEVER ASSY		1
	3-15	★86-535-293-019	C-SPRING,REEL TABLE		2
	3-16	★86-524-223-219	STOPPER,REEL TABLE T		1
	3-17	★80-ZM6-254-110	REEL GEAR ASSY L		2
	3-18	★86-575-345-110	LEVER,SWITCH 2		1
	3-19	★86-575-305-010	PLATE,HOUSING		1
	3-20	★86-535-242-210	LEVER,EJECT L		1
	3-21	★86-535-282-019	T-SPRING,PLAY GEAR F		1
	3-22	★86-535-238-210	LEVER,PLAY F		1
	3-23	86-535-226-210	PINCH LEVER ASSY F		1
	3-24	★86-575-222-110	T-SPRING,PINCH F		1
	3-25	86-535-228-310	PINCH LEVER ASSY R		1
	3-26	★86-575-339-010	E-SPRING,PINCH 22		1
	3-27	★86-575-341-110	T-SPRING,PINCH L		1
	3-28	★86-575-342-010	HOLDER,WIRE 2		1
	3-29	★80-ZM6-201-510	MECHANISM CHASSIS ASSY		1
	3-30	★86-535-239-110	LEVER,PLAY R		1
	3-31	★86-535-283-019	T-SPRING,PLAY GEAR R		1
	3-32	★86-575-322-010	LEVER,REC A (D2)		1
	3-33	★86-575-306-810	HOLDER,HOUSING		1
	3-34	★86-575-324-110	LEVER,CASSETTE		1
	3-35	★86-575-327-110	LEVER,CROM		1
	3-36	★86-575-323-010	LEVER,REC B (D2)		1
	3-37	★80-ZM6-206-010	T-SPRING,CASSETTE		1
	3-38	★86-575-347-110	P-SPRING,HEAD 2		1

EXPLODED VIEW – 4

REF. NO.	PART NO.	DESCRIPTION
A	87-067-178-010	VTT+2.6-3
B	86-524-457-019	SCREW U+2.6-5.5
C	80-ZM6-216-010	PW1.57-4-0.25 SLT
D	87-081-489-019	PW1.7-3.5-0.25 SLT
E	87-067-380-019	PW1.7-7-0.5
F	80-ZM6-249-010	PW2.1-5-0.13
G	80-ZM6-211-010	PW2.68-4.15-0.3 SLT
H	80-ZM6-252-010	VTT+2.6-3
I	86-575-353-019	PW2.3-5-0.5



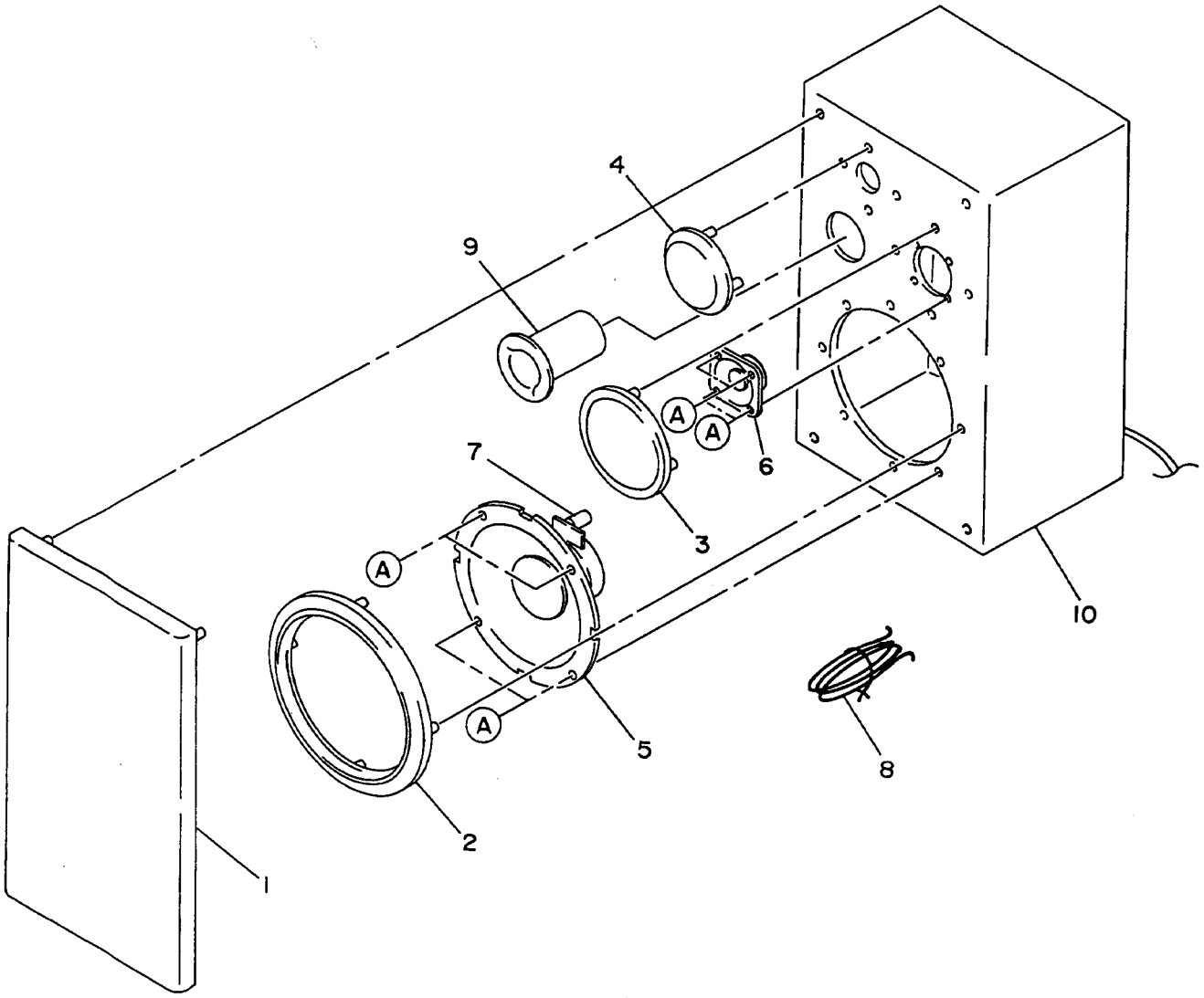
PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q'TY
	4-1	★80-ZM6-228-210	PULLEY,MOTOR 2		1
	4-2	★81-ZM3-201-010	HOLDER,MOTOR	※	1
	4-3	★86-513-441-110	COLLAR,MOTOR		3
	4-4	★80-ZM6-203-110	FLYWHEEL ASSY R1		1
	4-5	★80-ZM6-208-210	FLYWHEEL ASSY L1		1
	4-6	★86-535-231-410	LEVER,TRIGGER PLAY		1
	4-7	80-ZM6-227-110	BELT,SQ1.2-140		1
	4-8	★80-ZM6-205-110	T-SPRING,MAIN		1
	4-9	★86-575-312-110	CAM,MAIN		1
	4-10	★80-ZM6-243-010	SHEET,1.75-3.6-0.5 SLT		1
	4-11	★80-ZM6-242-010	SHEET,1.95-3.6-0.5		1
	4-12	★80-ZM6-219-110	CAM,FR MK2 2M		1
	4-13	★86-575-229-210	LEVER,PAUSE B		1
	4-14	★86-535-291-210	T-SPRING,FR CAM		1
	4-15	★86-535-230-410	LEVER,TRIGGER FR		1
	4-16	★80-ZM6-220-010	T-SPRING,FR2		1
	4-17	★86-575-326-210	LEVER,RINK		1
	4-18	★86-575-328-110	GEAR,IDLER		1
	4-19	★80-ZM6-217-010	MAGNET,RING 2		1
	4-20	★80-ZM6-222-010	SHAFT,PULLEY FR		1
	4-21	★80-ZM6-218-110	LEVER,FR2		1
	4-22	★80-ZM6-221-010	GEAR,FR2		1
	4-23	★80-ZM6-224-210	PULLEY,COUPLER (D1)		1
	4-24	★80-ZM6-213-110	HOLDER,ASSY P (D1)		1
	4-25	★86-575-221-210	GEAR,PLAY		2
	4-26	★80-ZM6-230-010	SHEET,BELT		2
	4-27	★81-ZM3-204-010	SHEET,BELT 2	※	1
	4-28	81-ZM3-202-010	BELT,SQ1.3-333 (D1)	※	1
	4-28	81-ZM3-203-010	BELT,SQ1.3-332 (D2)	※	1



- Insert a flat-bladed screwdriver into the positions indicated by the arrows (shown in the above figure) and remove the grille assemblies of the woofer, mid-range speaker and tweeter. Remove the screws of each speaker unit and then remove the speaker units.

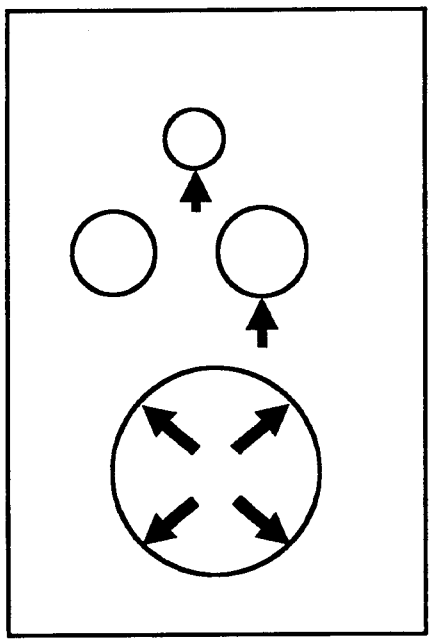
EXPLODED VIEW (SX – Z87)

REF. NO.	PART NO.	DESCRIPTION
A	87-343-172-010	UT1⊕4 – 12



■ SPEAKER LIST (SX – Z87)

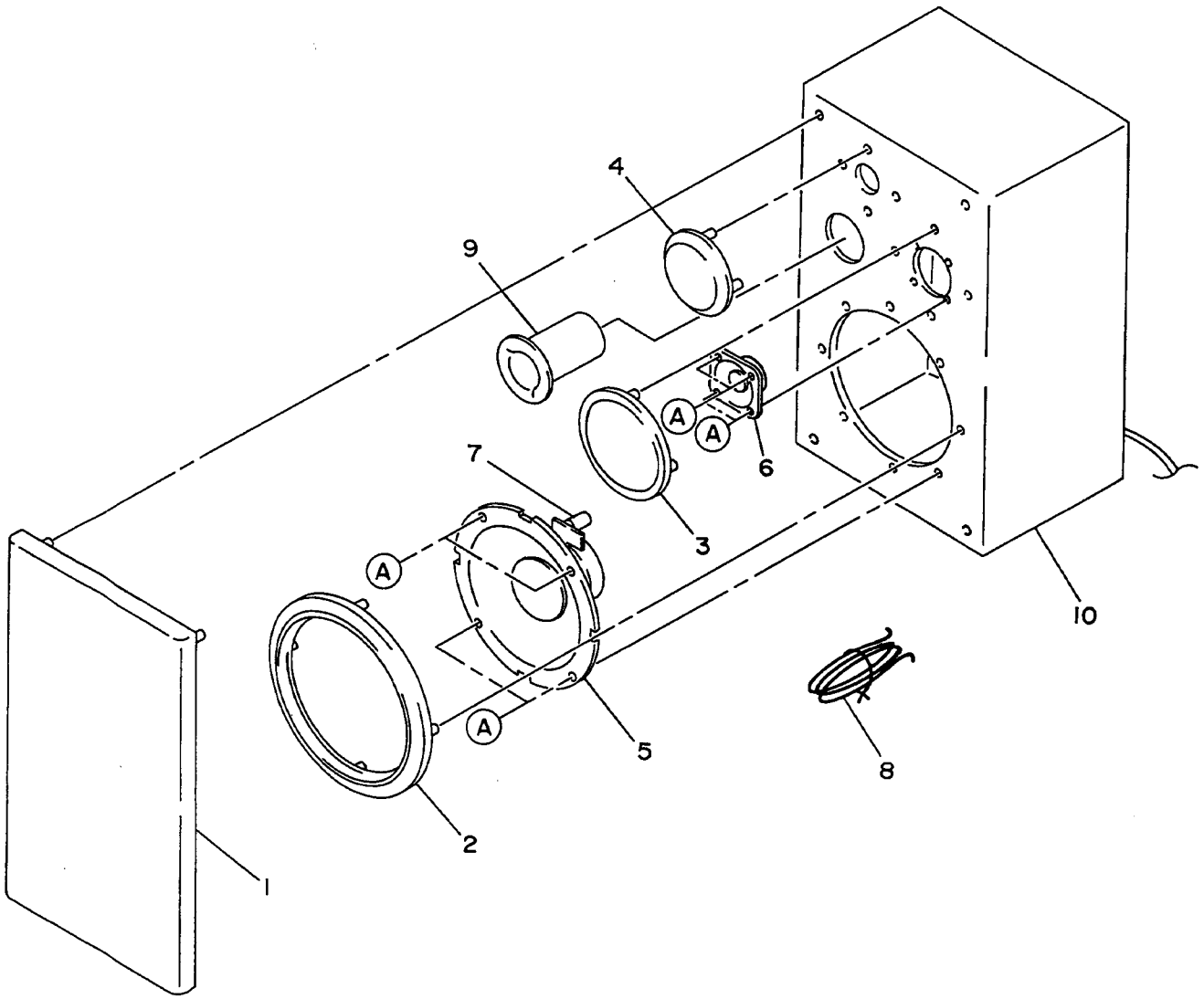
PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★81-MS1-017-010	GRILL FRAME ASSY	※	2
	2	★81-VS1-002-010	PANEL, WOOFER		2
	3	★81-VS1-004-010	PANEL, M ASSY		2
	4	★81-VS1-005-010	PANEL, T ASSY		2
	5	81-VS2-602-010	SPEAKER WOOFER		2
	6	89-VS5-609-010	SPEAKER TWEETER		2
	7	★87-010-005-010	CAP, ELECT 2.2 μ F		2
	8	★83-096-014-010	SPEAKER CORD		2
	9	★80-MS1-004-010	DUCT	※	2
	10	- - -	CABINET Z87		2



- Insert a flat-bladed screwdriver into the positions indicated by the arrows (shown in the above figure) and remove the grille assemblies of the woofer, mid-range speaker and tweeter. Remove the screws of each speaker unit and then remove the speaker units.

EXPLODED VIEW (SX – Z87)

REF. NO.	PART NO.	DESCRIPTION
A	87-343-172-010	UT1⊕4 – 12

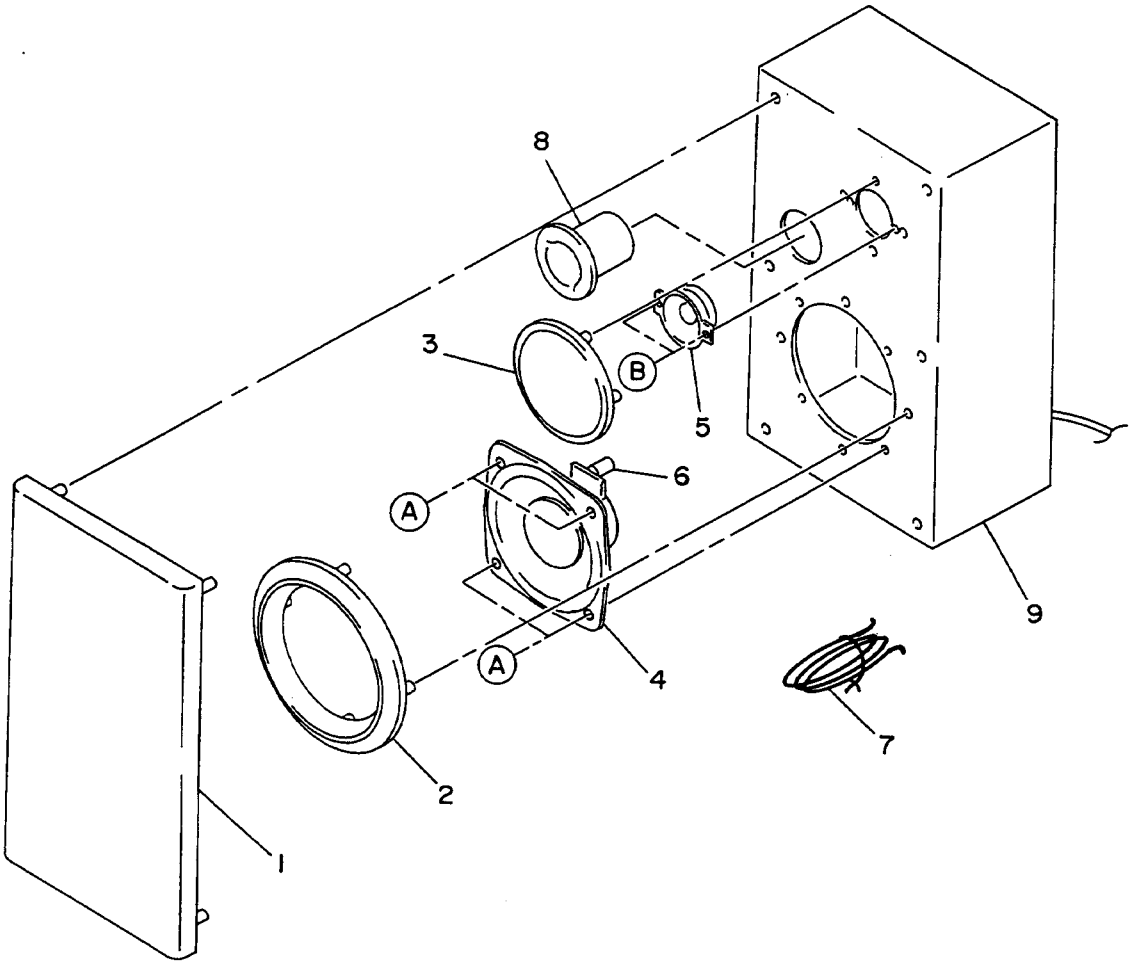


■ SPEAKER LIST (SX – Z87)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★81-MS1-017-010	GRILL FRAME ASSY	※	2
	2	★81-VS1-002-010	PANEL, WOOFER		2
	3	★81-VS1-004-010	PANEL, M ASSY		2
	4	★81-VS1-005-010	PANEL, T ASSY		2
	5	81-VS2-602-010	SPEAKER WOOFER		2
	6	89-VS5-609-010	SPEAKER TWEETER		2
	7	★87-010-005-010	CAP, ELECT 2.2 μ F		2
	8	★83-096-014-010	SPEAKER CORD		2
	9	★80-MS1-004-010	DUCT	※	2
	10	- - -	CABINET Z87		2

EXPLODED VIEW (SX – Z85)

REF. NO.	PART NO.	DESCRIPTION
A	87-343-172-010	UT1⊕4 – 12
B	87-354-101-010	VT1⊕3 – 18



■ SPEAKER LIST (SX – Z85)

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q.TY
	1	★83-323-010-010	GRILL FRAME ASSY		2
	2	★81-VS1-002-010	PANEL,WOOFER		2
	3	★81-VS1-004-010	PANEL,M ASSY		2
	4	80-MS2-601-010	SPEAKER WOOFER	※	2
	5	80-MS2-603-010	SPEAKER TWEETER	※	2
	6	★87-010-005-010	CAP,ELECT 2.2 μ F		2
	7	★83-096-614-010	SPEAKER CORD		2
	8	- - -	DUCT		2
	9	- - -	CABINET Z85		2

■ ACCESSORIES/PACKAGE LIST

PART NO. CHANGED TO	REF. NO.	PART NO.	DESCRIPTION	COMMON MODEL	Q,TY
	1	★81-MK1-901-018	INSTRUCTION BOOKLET (Z87M)	※	1
	2	★81-MK2-901-018	INSTRUCTION BOOKLET (Z85M)	※	1
	3	★87-043-106-019	FM WIRE ANT (Z)		1
	4	★81-748-632-018	FM FEEDER ANTENNA FMN (E,K)		1
	5	★81-MR1-006-019	REMOTE CONTROLLER RC – TZ87MLYBN	※	1
	6	★81-653-645-010	AM LOOP ANT (6T) NC (Z)		1
	7	★81-653-647-010	AM LOOP ANT (6T) CON (E,K)		1